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TABLE OF CONTENTS.

	PAGE.
Editorial:	
THE INDIA RUBBER WORLD Ten Years Old	329
The "Boom" in Rubber Manufacture	329
The Future of the Rubber Supply	330
Minor Editorials	331
The Literature of Rubber	332
The Waterproofing of Cotton and Other Fabrics	333
Retailers' Tests for the Quality of Rubber Goods *H. L. Terry, F. I. C.*	334
The India-Rubber Industry Abroad	296
[Norway's First Rubber Factory. Profits of the Silvertown Company. Rubber Footwear in Europe. Rubber Factory of Felten & Guilleaume. Company Notes. General Notes.]	
Hunting for India-Rubber in Cuba *J. Orton Kerbey*	337
Notes on Some Sources of India-Rubber	338
[Portuguese East Africa. Brazil. Ecuador Mexican Rubber Exports Growing. Yucatan. British Honduras. Costa Rica. Java. British New Guinea. Rubber Planting in the Far East.]	
Recent Rubber Patents [American and English]	340
Heard and Seen in the Trade *The Man About Town*	342
[Rubber Manufacture at Home and Abroad. Automobile Tire Problems. Rubber Shoe Trade. Jobbers' Associations. One Secret of Profit Making.]	
New Goods and Specialties in Rubber *(Illustrated)*:	
New Features in Automobile Tires	344
The Hendrickson Exerciser	344
The Perfection Air Mattress	344
The Davol No. 00 Syringe	344
Hard Rubber Acid Pump	344
Automatic Fruit Jar Ring Machine	345
The Howard Hose Reel	345
The "Marvel" Syringe	345
The Hoggson Pocket Time Stamp	345
The Use of Rubber in Horseshoeing	346
The "Princess" Dressing Comb	346
The Late George M. Allerton *(with Portrait)*	347
Death of Henry W. Burr *(with Portrait)*	348
Recent Trade Publications	349
Some Wants of the Rubber Trade	349
Miscellaneous:	
Our Gunboat on the Amazon	331
The New Book on Rubber	332
Removal of a Rubber Store	332
A Rubber Congress at Paris	332
Air Brake Hose in Russia	341
Rubber Goods Exports from New York	341
Success of the Congo Railway	343
Deodorization of Rubber Rings	343
Air Brakes for Street Cars	348
A Compliment from England	348
Protection of Rubber on the Congo	349
The Coming of the Automobile	350
To Plant Rubber in Mexico	350
The Basis of Rubber Coagulation	350
New Western Union Cable to Cuba	350
To Reform Business Credits	346
Rubber Nipples for Sucking Pigs	346
News of the Rubber Trade	351
Review of the Crude Rubber Market	356
Statistics of the Rubber Movement	357

THE INDIA RUBBER WORLD TEN YEARS OLD.

THE present issue terminates the tenth year of continuous publication of THE INDIA RUBBER WORLD. While not the first journalistic essay in the rubber trade, ours has been the first journal of its class to become firmly established in America, and the management feel assured that very many of their patrons will share their satisfaction in being able to announce that the paper is to-day on a more substantial basis than at any time in the past. This fact is all the more satisfactory because it leads to the hope that the many pleasurable ties which have grown up between its editors and publishers and the members of the trade may long continue to exist.

It may not be amiss to remark here that, at the very foundation of the policy of its promoters was the earnest desire to make of THE INDIA RUBBER WORLD a newspaper every issue of which should prove of practical value to the trade it represents. No amount of editorial ability or of business enterprise could have sustained the paper through all these years unless it had demonstrated a capacity to render a real service to the rubber trade, and it is with no small pleasure that we look upon whatever success the paper may have attained as evidence that it has been such an organ as the rubber fraternity want. We are frank to say, however, that our ambition shall be to make the journal of still greater value to its readers, and that no pains will be spared, in the coming years, to bring THE INDIA RUBBER WORLD even nearer to the ideal which has been kept steadily in mind from the outset.

It may interest our friends to know that the next issue of the paper will contain some special features, incidental to its character as a Tenth Anniversary Number. There will be no effort to gild the outside cover pages, or to pad the contents for the mere sake of bulk, but rather to make the character of the contents such as will render the October issue of striking interest as a review of the rubber industry to date, and particularly suited for preservation and future reference.

THE "BOOM" IN RUBBER MANUFACTURE.

THE remarkable growth of the rubber business since the beginning of the year has been so quiet that many have not been aware of its proportions. To begin with, there are few of the old established concerns but what have been forced to make some sort of addition either to plant or equipment, and most of them have been running on full time. In addition to this, there have been incorporated since the first of January some forty concerns for the manufacture of rubber goods. Most of these are in the line of either mechanical rubber goods or tires; next in importance come the rubber shoe incorporations, then a

few rubber clothing companies, and a sprinkling of specialty concerns. A variety of reasons are to be given for this remarkable growth; prominent among them is of course the general excellence of business in all lines. The next reason, perhaps, is that the rubber trade at last is beginning to feel and respond to the export impulse that is being so marvelously exploited by other lines. Then, too, there are the new and varied uses to which rubber is constantly being put. A further reason, particularly in connection with boots and shoes and mechanical goods, is due to the trust idea which has received such general attention. There is no question but what most men would rather start in a line of business which is largely in the hands of a trust than one which is not. The practical result, therefore, of the elimination of competition by amalgamating many corporations into one is simply to breed a new set of competitors outside of the fold, who unavoidably reap the benefits that were promised only to the elect.

THE FUTURE OF THE RUBBER SUPPLY.

THE future extent of the rubber supply and the standard of prices of the crude material are still an open question. In spite of an almost uninterrupted increase in the total yearly production of rubber for a half century, and of the introduction of compounding methods and ingredients which lessen the percentage of natural rubber required in the manufacture of many lines of goods, the level of prices of raw material has advanced constantly. The receipts of rubber at Pará (in tons) for recent crop years have increased as follows:

1894-95.	1895-96.	1896-97.	1897-98.	1898-99.
19.470	20.975	22.320	22.260	25.355

The fact that the unusual rate of increase of the output from Pará during the last crop year, in connection with an enlarged yield from West Africa and the Congo, has not prevented a higher scale of prices than at this date last year, points conclusively to a growth in the demand for rubber. A greater use of rubber is evident from the expansion of long established factories and the establishment of many new ones. Never before, in the history of THE INDIA RUBBER WORLD, have so many inquiries been received from persons outside the trade who are thinking of becoming engaged in it.

All of this lends new interest to the question whether we shall have an increased production of rubber, or even a maintenance of the present rate of supply. The remote situation of the more important rubber fields always has presented difficulties in the way of securing satisfactory information regarding the extent of the forests and the conditions under which rubber is gathered. Naturally the merchants of such a port as Pará, whose sole dependence is upon rubber, have held to optimistic views. They have felt encouraged by the fact that the yearly output has grown steadily, in fifty years, from 1,000,000 to 50,000,000 pounds. In the face of such figures it was not natural that the exporters should be disturbed by fears of a decline in the crop. But already the official statisticians at Pará report a falling off in the production from the "islands," or lower, district, the increased output having been gained from up the river. At last the Pará merchants are confronted with the possibility of their city declining in favor of some point further up. While our rubber manufacturers probably care little whether their supplies come through Pará or Manáos, a change might have a practical bearing as suggesting that the exhaustion which appears to have begun in the Pará district may be repeated ultimately all the way back to the Andes.

The report that has just been made to the government of the expedition to Iquitos by the United States gunboat *Wilmington* is of interest in connection with the rubber situation. It appears to Commander Todd that the rubber trees have been pretty thoroughly "worked" along the margins of the rivers wherever rubber has been sought, and he doubts whether, even if the trees should be found abundant in the interior, it would be possible for the collectors to reach them. It must be remembered that, at best, the rubber trees are found scattered through dense forests of other growths, and that, away from the navigable rivers, means for transportation do not exist. Thus it happens that distances of but a few miles interpose real difficulties in the matter of obtaining forest products. This transportation problem affects not alone the movement of rubber; there is to be considered the shipment to the interior of the merchandise used in barter for the rubber, in the initial purchase of that commodity, and also of the food required for the rubber gatherers, practically none of which is produced in the rubber districts. Precisely such difficulties have discouraged the gathering of rubber in Madagascar as soon as the trees near the coast have become exhausted, and government reports on the rubber situation in Burma have called attention to a like condition there. Still another feature is the scarcity of native labor in the Amazon rubber country, and the failure thus far to find a class of immigrants adapted for rubber gathering. While Commander Todd offers no definite conclusions, he does consider it an open question whether the outlook is favorable for the rubber supply, and similar views are expressed in a report made to Washington by Mr. Kenneday, our consul at Pará, who accompanied the exploring party up the Amazon.

Fortunately, some of these conditions are beginning to be comprehended in Brazil. Dr. Paes do Carvalho, governor of Pará, has labored unceasingly to stimulate an interest in agriculture, to the end that one of the most fertile regions on the globe may not continue dependent upon foreign food supplies. The *Wilmington* party subsisted, during the whole of their voyage to the interior, upon their sea rations, on account of the difficulty of getting food from local sources. In both of the reports quoted the food problem is treated as of first importance in the development of the resources of Amazonia on a desirable basis. It seems quite reasonable to suppose that, so long as potatoes are imported at 3 cents a pound, onions at 9 cents, and other things in proportion, the laborers become weakened by the lack of wholesome food and thus fall easier victims to exposure to sun and rain and miasmic fe-

vers. If, instead of rubber gathering, at high wages, confined to a few months in the year, as the sole source of income for the working class, there could be developed the cultivation of food crops and the rearing of cattle, which could occupy the people profitably for a part of the year, while making food more plentiful and less costly, the condition of the rubber gatherers doubtless would become improved and the cost of gathering rubber lessened. The exhaustion of the rubber forests of the lower Amazon, by the way, might result in a larger number of workers becoming employed in agriculture, to the ultimate advantage of the country.

But all these are considerations for the future. Doubtless there is enough rubber in sight to maintain the current rate of increased output, while the gradual improvement in transportation facilities places the upriver rubber gatherers in a position as convenient to the markets of the world as was formerly the case with those nearer the seaboard. Commander Todd does not consider a serious falling off in the total rubber production as probable within fifty years. If this were all, the rubber manufacturer of to-day might rest content; the trouble is that he doesn't know what increase in the demand may send prices still higher within twelve months.

THE PROPOSED PACIFIC CABLE continues to occupy the attention of the British and Colonial governments. Within a month the legislatures of Canada and Victoria have taken action committing those countries to their share of the cost, while Mr. Chamberlain, her Majesty's colonial secretary, seems to have been able to bring the mother country to a more liberal attitude toward the scheme than we were able to report a short time ago. Our news columns summarize the business reports of two British cable construction companies which have submitted tenders for the cable, and which appear to have been quietly capturing a liberal quantity of material, against possible needs for cable work. This is the plan always followed. If manufacturers should await the beginning of work on a new cable before buying Gutta-percha and copper, prices would at once rise to a point out of reach. As it is, Gutta-percha is not so very much higher to-day than when bids were first invited for the Pacific cable. Copper is very much higher, however, due to the consumption in many lines of electric wire and cable work, at a rate in excess of the production of the metal. A point worth noting is that already many short lines of submarine cable have been laid with India-rubber insulation, and the continuation of this policy which now appears probable will tend to prevent prices of Gutta-percha from become prohibitive.

INDIA'S ADOPTION OF THE GOLD STANDARD may be taken as an indication that there will be more countries depending upon the gold standard alone before there will be fewer. If the use of one monetary standard could become universal there is no doubt that the business world would be greatly benefited. So long as different standards exist in different countries so long will there be room for fluctuations in exchange of a character to offer obstacles to trade. One reason why long credits are demanded in certain countries to-day, when they buy foreign goods, is that the buyer may have an opportunity to wait until the price of exchange happens to be favorable to himself. It often makes a wide difference, for this reason alone, whether prompt payments are enforced or long accommodations are allowed. With one money standard everywhere, however, no such excuse for delay in payments could be offered, and the creditor countries would be rid of what now often amounts to a serious drawback to profits on this account.

RUBBER PRICES ARE HIGH because of the reckless disregard of human life in the Amazonian rubber camps, according to a clergyman who has spent many years in missionary work in that region. The natives roam the forests in perfect health until brought into the slavery of civilized (?) collectors of rubber, when they are forced to labor hard, without enough food, and fall easy victims to fevers in their impoverished condition, dying away like so many flies. Not only is the available supply of labor constantly lessened in this way, but the Indians who have not yet come under the control of the rubber collectors fight shy of them. It is to be hoped, on the score of humanity, that the missionary's picture is overdrawn; but such things are not impossible, and it is no secret that a labor trouble of some kind exists throughout the South American rubber belt. It is inevitable that the rubber gathering interest everywhere will yet be under intelligent supervision. It is equally true that the first step in bringing about the new conditions will be in relation to the labor problem.

"MEN WHO WATER THE PLANTS and vegetables through a garden hose and wear overshoes in muddy weather can have no conception of the size of the rubber business," says the New York *Press*. Of course not. It is only the type of man who laboriously carries water in a pail from the hillside spring and waters his sweet potato vines with the aid of a tin dipper who can estimate this business at its true dimensions. Or else the man who bravely bares his feet to the elements while his overshoes rest at home, wrapped in pink tissue paper, waiting to become a precious heirloom. It does pass all comprehension why the editors of great newspapers will go on, wasting their time and space in their columns in asserting things so plain to every mind as the subject of the above utterance in the able and esteemed *Press*.

THE WILLINGNESS OF SOME CAPITALISTS ABROAD to invest in schemes for exploiting rubber in the Amazon country may be due to their having gotten hold of some such "inside facts" as we find in one of our exchanges—for example, "that one man, employed at 15 cents a day," to gather rubber, "can easily attend to and collect from fifteen trees per day, at a cost of about 5 cents a pound."

OUR GUNBOAT ON THE AMAZON.

SPEAKING of the resentment shown in certain quarters towards the expedition up the Amazon of the United States gunboat *Wilmington*, the Rio *News* maintains that, as the Amazon is open to the merchant vessels of the world, it is open to war ships as well. But a writer in *O Tribuna*, of Rio, points out that only by special treaty are war ships ever allowed to enter freely the inland waters of a country. Besides, the Amazon waters are not wholly open to commerce; only the Amazon as far as the frontier of Brazil, the Tocantins to Cametá, the Tapajós to Santarem, and Rio Negro up to Manáos were included in the decree of 1866. Not even the Madeira, which the commander of the *Wilmington* desired to explore, is open to international navigation, and the government was right, he says, in insisting that a special concession should have been asked for, even though the United States be a friendly power.

THE LITERATURE OF RUBBER.

LES ARBES Á GUTTA-PERCHA ; LEUR CULTURE. PAR HENRI LECOMPTE, agrégé de l'Université, docteur des sciences, professeur au lycée Saint Louis, laureat de l'Institut. Paris : Carré et Naud. [Paper. 8vo. 95 p. + map. Price 2 francs.]

WHILE this book has been prepared more especially with a view to the requirements of those engaged or intending to engage in the cultivation of Gutta-percha, it will be appreciated by all who are interested in any way in obtaining correct data regarding this increasingly important substance. The writer treats (1) of general considerations regarding the properties of Gutta-percha and the botanical species yielding it; (2) methods of its extraction from the trees; (3) statistics of production and prices of Gutta-percha; and (4) experiments made in cultivation. The work concludes with a report made by the author to the French minister of the colonies on the acclimation of Gutta-percha trees in the French West Indies and French Guiana.

SUBMARINE AND LAND TELEGRAPH SYSTEMS OF THE WORLD. [From the "Summary of Commerce and Finance" for January, 1899.] Washington: Government Printing Office. [Paper. 4to. pp. 1653-1675. + map.]

THIS is a comprehensive summary of the growth of the modern submarine cable "from a mere Gutta-percha coated wire," showing the location, number, length of lines, service performed, cost of construction, and history of the different systems. There is a chronology of cable development and tabular statements of the present condition of submarine and land lines.

SEVENTEEN pages of Vol. XIV of the "Annales du Jardin Botanique de Buitenzorg (Java)" are devoted to a paper by Dr. F. A. F. C. Went, on "Der Dimorphismus der Zweige von *Castilloa elastica*" (The Dimorphism of the Branches of the *Castilloa elastica*). The term relates to the existence of two distinct forms of the same organ—as the male and the female flower—on the same plant, or on the same species of plant. The paper is accompanied by three plates, embracing 23 figures, showing the structure of the leaves and flowers of the rubber plant referred to.

CIRCULAR No. 11, issued by Mr. John C. Willis, director of the royal botanic gardens of Ceylon, is devoted to "Panama Rubber (*Castilloa*)" giving a résumé of its botany, history in Ceylon, and details of soil and climate, methods of cultivation, rate of growth, tapping, and yield. Mr. Willis does not recommend, for Ceylon, plantations of *Castilloa* rubber alone, but thinks that it might prove profitable as a minor product, planted in connection with tea or other crops.

IN CURRENT PERIODICALS.

GENERAL Considerations on the "Gohine" Vine. [Caoutchouc yielding vine in the Soudan.] *Revue des Cultures Coloniales*, Paris. IV, 31. June 20, 1899. pp. 353 355.

The "Gohine" Vine. [Extract from a report on the new rubber plant, addressed to the governor of the Soudan, by M. Chevalier, botanist, in charge of a government mission to the Soudan.] *Revue des Cultures Coloniales*, Paris. V, 32. July 5, 1899. pp. 11-13.

Methods of Preparing Rubber. By R. H. Biffen. [From the *Journal of the Society of Arts.*] *The Pharmaceutical Era*, New York. July 6, 1899. pp. 15 17.

Rubber (*Castilloa elastica*) in Guatemala ; its Culture and Preparation. [From the report of the United States consul general.] *De Indisch Mercuur*, Batavia. No. 13.

The Different Caoutchouc Plants of German East Africa. [With figure of the *Mascarenhasia elastica*, K. Sch.] *Der Tropenpflanzer*, Berlin. III, 5. May, 1899.

The *Cryptostegia Madagascariensis*, or "Lombiro" of Madagascar. [Description of a rubber producing vine in the Majunga district, belonging to the *Asclepiadaceæ.*] By Henri Jumelle. *Revue Des Cultures Coloniales*, Paris. V, 32. July 5, 1899. pp. 1-3.

A New Method of Exploiting Rubber. *El Progreso de Mexico*, Mexico. VI, 280. July 30, 1899. pp. 632 633.

The "Hazondrano" of Madagascar. By Louis Lecompte. [Rubber yielding tree southeast of Fianarantsoa. Attributed to natural order *Apocynaceæ ;* has the general characteristics of the genus *Kickxia.*] *Revue des Cultures Coloniales*, Paris. V, 33. July 20, 1899. pp. 33-37.

Caoutchouc in Our Possessions in Oceanica. By A. Goupil. [Extract from *Journal Officiel des Etablissements Français de l'Océanie.*] *Revue des Cultures Coloniales*, Paris. V, 33. July 20, 1899. pp. 54-55.

The Caoutchouc Plants of Africa. By Otto Warburg. [Description and distribution of *Landolphia* and various species less known.] *Der Tropenpflanzer*, Berlin. III, 7. July, 1899. pp. 303-318 + one illustration.

The Preparation of Caoutchouc. By Axel Preyer. [Review of recently suggested methods of coagulation.] *Der Tropenpflanzer*, Berlin. III, 7. July, 1899. pp. 327-331.

Manihot Glaziovii in German East Africa. By Karl Perrot. *Der Tropenpflanzer*, Berlin. III, 7. July, 1899. pp. 335-336.

THE NEW BOOK ON RUBBER.

THE work on "Crude Rubber and Compounding Ingredients," by Mr. Henry C. Pearson, has been published and is now being distributed to subscribers. The advance sale has been very satisfactory, and the delivery of all the copies on the same date has not been possible, but the books have been forwarded as rapidly as they could be obtained from the bindery. While the delays in the mechanical production of the book have been annoying, they have been due wholly to causes which could not be foreseen.

REMOVAL OF A RUBBER STORE.

THE Gutta-Percha and Rubber Manufacturing Co. (New York) have removed to Nos. 126-128 Duane street, corner of Church. They had previously occupied quarters in the Pará building, No. 35 Warren street, since 1885. In the new premises they occupy the first floor and the basement and subbasement. The floor area is 50 per cent. greater than in the old store, besides which the whole establishment is better lighted, while the basement ceilings are higher. The larger premises have been made necessary by the growth of the company's business in recent years, and their desire to keep on hand, in a central location, larger stocks of their wide range of products.

A RUBBER CONGRESS AT PARIS.

A CONGRESS of leading scientists and manufacturers in the rubber line will be called for next year at the Paris Exposition of 1900, where the interested parties will discuss the question how the rubber trees can be best protected against undue decay and robbery.

AFTER encountering many difficulties, The Amazon Telegraph Co., Limited, it is stated, have decided to abandon the cable in the Amazon river from Pará to Manáos. The company are, however, building a land line with some reaches of cable. They have issued bonds in the sum of $600,000, with interest at 5 per cent. A subsidy of $85,625 a year for twelve years was granted to the company by the Brazilian government. The company are an English corporation.

THE WATERPROOFING OF COTTON AND OTHER FABRICS.

BEFORE India-rubber was ever thought of as a waterproofing substance, compounds were used and processes employed for rendering fabrics impermeable to moisture. One of the earliest patents granted in this line was taken out in England by John J. Wolfen in 1627, and read as follows: "to vse or excise, practize or putt in vse, a newe invencon for the making and pparing of ctaine stuff to hould out wett and rayne;" and to "make, frame, sett vpp, or vse all such engynes, instrumentes, and seuises" as the patentee shall have found out or discovered, "to pposes aforesaid, on payment of the yerely rente of five poundes of lawfull money of Englande." In this case no formula was given, both compounds and process being secret.

The next experiments which took the form of patents appeared from 1735 to about 1800, and consisted of compounds of alum, borax, and copperas; of mixtures of beeswax and turpentine; of alum, isinglass, argol, and cream of tartar; of varnishes and dryers; and finally, in leading up toward India-rubber, of asphaltum, birdlime, turpentine, and other gummy matter. It is interesting to note that the use of acetate of lead and alum began as far back as 1795, from which date a great number of shower proof compounds have been based upon these ingredients. Both alum and acetate of lead were used in connection with carbonate of magnesia and gum arabic; and applied with heat in connection with gelatine, linseed oil, tallow, and rosin; in making waterproof solutions in connection with paraffine, India-rubber, and alcohol; mixed with glue, tannin, and soluble glass to waterproof woolens; and with sulphate of zinc, British gum, and palm soap for cotton.

Of all the processes ever brought out for shower proofing the cravenette is perhaps the best. This process was foreshadowed by earlier ones, where paraffine, beeswax, spermaceti, and analogous materials were used. These were sometimes combined with a little India-rubber and sometimes were not. The cravenette formula calls for ozocerite, stearine, spermaceti, and Japanese or similar waxes. There is also added, if necessary, asphaltum, resin, and in some cases India-rubber and Gutta-percha. The waterproofing substance is cast in blocks, the cloth is passed over the block and then heated, the fibers taking up a certain percentage that is deposited by friction.

In the Berlin *Farber Zeitung* Edward Gruene lately described a method for waterproofing awnings and similar fabrics. Pieces of gray calico were used, 100 feet long and 40 inches wide, weighing 23 pounds. When finished they weighed 28 pounds. The calico was treated for an hour on a jigger with a bath of 33 gallons of water (at a boil) containing 6½ pounds of 66 per cent. waterglass for every three pieces. The stuff was then wrung and dried at 68° F.

Next comes an impregnation with alumina soap in combination with India-rubber and wax. This can be done with two or three baths. In the latter case the first bath is a 6° Baumé solution of acetate of alumina, the second a solution of waterglass and the third a soap bath in which India-rubber and melted wax have been stirred. In the former case the second bath is dispensed with. This is the better way, as when the goods are impregnated with acetate, dried and taken straight to the soap bath, they become thicker and more waterproof than when they have had a second treatment with waterglass. The latter seem to hinder the precipitation of the alumina.

If the second bath is used it should be made of 33 gallons of water and 3¼ pounds waterglass of 66 per cent. for every three pieces, and the goods should be passed through it three or four times lukewarm on the jigger, and then dried at 68° to 77° F. The acetate of alumina is made by dissolving 55 pounds of alum in 11 gallons of boiling water, and then precipitating with 40 pounds of sugar of lead. The precipitate is filtered off and washed, and the wash waters are run into the filtrate till it is down to 6° Baumé. The goods are thoroughly impregnated with this by passing them through it several times. They are hen hung up to dry at 68° to 77° F. The final bath is made up as follows: 4½ pounds of India-rubber (the best Pará) having been cut up fine, are treated with 2¼ gallons of oil of turpentine. After four days frequent stirring add another 2¼ gallons of turpentine and stir for four days more. The stuff should be kept warm in a vessel surrounded by warm water.

The sticky mass obtained is brushed through a fine sieve of 150 meshes to the square inch, and then through one with 200 Any India-rubber which will not pass through the second sieve is treated with about ½ gallon more turpentine until it all goes through. The whole lot now gets 2¼ gallons more turpentine and is worked up till all of it passes through a sieve of about 360 mesh. As this part of the work takes a long time it is advisable to make up as large a quantity of India-rubber at a time as possible, but it is not advisable to handle more than double the amount of India-rubber above indicated. Besides 4½ pounds of India-rubber are enough for fifteen or sixteen pieces.

In the meantime two other liquids have been prepared, one by melting 33 pounds beeswax in a jacketed pan, and then adding 2¼ gallons of boiled linseed oil and boiling up the whole. The other is made by dissolving 40 pounds of resin soap in 22 gallons of soft water. The solution containing 4½ pounds of India-rubber is poured into the boiling varnish and then the mixture is sent through a hair sieve into the boiling soap. The whole is gradually diluted, with constant heating and stirring, to 44 gallons. The alumed cotton is passed through this stuff hot and without folds. It must then be dried, hung up and be then passed through the hot soap mixture again. If at this final stage a cheesy mass forms on the surface of the bath, a plain solution of soap (say about 10 per cent.) should be added to preent the separation of the ingredients of the bath.

In speaking of the treatment of fabrics, it is in order to mention the beautiful goods that are now on the market, known as mercerized cotton, and are so named because the process was discovered by John Mercer. It is done by boiling the cotton in dilute alkalies, while the air is excluded. The solution used is usually one of caustic soda, the result of the boiling being that the fiber swells, becomes rounded, and almost transparent, and at the same time shrinks in length considerably. After this treatment its strength is greatly increased, it gains in weight, and it takes and holds colors much more readily. The ordinary process is to stretch the yarn tightly on a frame and mercerize it, wash, and dry it during this tension. The tension prevents shrinkage and gives such a luster to the fiber that these cottons are now made to imitate silks. Many modifications of the mercer process have been brought about recently, one of German origin adding glycerol to the caustic soda solution, with the result that there is no shrinkage, and the treatment can be applied without putting the goods on the frame and stretching them.

RETAILERS' TESTS FOR THE QUALITY OF RUBBER GOODS.

By H. L. Terry, F. I. C. (Manchester, England.)

SOME observations have recently appeared in one of your contemporaries from both a German and a Russian source, dealing with the rather important subject which is expressed above. That the matter is really of importance, rather than merely of interest, hardly needs emphasis, for it is clear that with a body so susceptible to admixture—not to use a stronger term—as is India-rubber, and in the light of the severe competition that is met with in the trade nowadays, there is the ever present likelihood that the buyer may be somewhat deceived in the quality of his purchases. It would therefore seem desirable, both in the interest of the buyer and of the manufacturer who sell a good article at a fair price, that the former should be in possession of means whereby they can protect themselves against the wiles of such manufacturers as may show a tendency to walk in the dubious paths of unscrupulousness. This, I say, is desirable, but at the same time I am not at all convinced of its practicability, for many are the pitfalls which await the tyro who essays with easy confidence to tread the paths of proximate rubber analysis.

But passing analysis aside as being too troublesome, and withal too costly where a large quantity of goods of various sorts are being bought and sold, we have yet the various physical tests which have become more or less sanctioned by continued use. These tests, however, we contend in experienced hands may easily lead to results which are not in strict conformity with the truth, and may have the undesirable consequence of bringing about a rupture of business with firms of the first repute.

There has been a noticeable tendency of late to adopt the heat test in some form or other for determining the probable duration of life of rubber goods. Now this test may give useful indications for various steam goods where the sulphur is not in excess, but it can hardly be considered applicable to all sorts and conditions of rubber goods. Many articles manufactured from rubber have never in their several uses to withstand any temperature higher than that of the atmosphere, and it is a needlessly severe test to put their longevity to the proof at a temperature exceeding that of boiling water. Such goods may show considerable deterioration when exposed to high temperatures while at the same time they may give every satisfaction in the rôle they are intended to play at the temperature of the air. I had some difficulty, a few years ago, in convincing a manufacturer of the conclusions at which I had arrived on this point. He wished all sorts of goods to be put through the British admiralty heat tests, which I assured him were of far too severe a nature for general use. These tests, by the way, are one hour at 270° F., dry heat, and three hours at 320° F., moist heat, and they apply to goods made of Pará rubber, or Pará rubber and zinc oxide, with only a limited percentage of sulphur. In cases where common rubber, various earthy matters, and a rather large proportion of sulphur go to form the goods, the tests are too severe.

In thus appearing to condemn the heat test I do not wish to be understood as expressing an opinion against its great use in the hands of experts as a means of distinguishing different grades of rubber. It is only against its more or less general application to all classes of goods and to its abuse by the non expert that I venture here to strike a discordant note. The heat test certainly may be taken as an indication of the excess or otherwise of free sulphur in goods, but then there are but few purchasers who are as strict as the British admiralty as to insist on a low limit for sulphur. Whether this strictness is really justified seems open to doubt, because a small amount of sulphur necessitates a longer time or higher heat of vulcanizing and this is against the lasting power of the goods. Further, there are numerous cases of goods remaining round in use for years although they contained comparatively large amounts of free sulphur. Of course, for steam purposes a large excess is undesirable, but it is doubtful whether an extra 1 per cent. would not prove a blessing rather than a curse.

Perhaps at this time there is no class of rubber goods for which a simple test is desired by the retailer, more than that of bicycle and carriage tires. Especially is this important for small firms who own patents and get their tires made for them by the large rubber companies. I was asked recently by the owner of a patent if there was not some mechanical contrivance of easy application which would serve to bring to light any latent defects. I was unable to offer him anything but cold comfort, but really there seems no reason why something in the way of a machine, such for instance as is used by the railway companies for testing buffers, should not be brought out to supply this felt want. Chemical analysis, besides being prodigal of time and money, necessitates the goods being cut, and this of course is decidedly objectionable. It certainly should not be beyond the wit of man to construct some mechanical contrivance by which tires could be tested for tensile strength in much the same way as is elastic thread before it leaves the manufacturers' hands. Of course such a test must not be abused by the purchaser of goods: if these latter are bought on their merits and at a low price it is quite out of place to test them against a standard of the first quality. Bur in those cases where the buyer knows nothing about Pará to Africans, but is only familiar with the generic term rubber, it is important that he should be on somewhat level terms with the manufacturer. It may be said that as tires are usually sold under a guarantee of so many years, that the middleman runs no risk, but what payment for, or replacement of, defective goods can make up for loss of confidence on the part of the public? This is really the serious element in the case of defective manufacture.

It will be conceded on all hands that the best test for rubber goods is time, but this is quite inapplicable for the middleman, however great the favor it finds in the eye of the manufacturer. Waterproof garments are a class of goods for which some rapid test as to their probable durability is highly desirable, but it is difficult to recommend any procedure that could be followed without in some way damaging the goods. In the case of dry heat cured goods, blooming of the sulphur is a frequent cause of complaint, but as this defect does not take long to develop, it is better to stock the cloth for some little time before having it made up. This blooming is not now so much in evidence as it used to be, a result due to the greater care which is taken not to use an unnecessary amount of sulphur in the proofing compound. With regard to mechanical rubbers generally it is now pretty well recognized that the faith which was reposed in the floating or non floating test was misplaced, as a floating rubber largely compounded of substitute has not the durability of a denser compound of good rubber and

zinc oxide. If the property of floating was confined to, and indicative of, rubber, such a test would be all very well, but as many of the substances utilized at the present day for cheapening rubber correspond in density to it, the test in itself is quite valueless. In these general remarks it may well be a cause for complaint that there is a poverty of suggestion as to the means by which the retailer can guard his interests. This is undeniable, but it is always easier to point out an evil than to suggest a remedy, and in the present case the difficulties are accentuated.

In the case of rubber goods, as in that of other substances, the tests must have some reference to a standard, and it is necessary to know what or where is this standard. It is clear that in the case of a great many rubber goods the standard of to-day is not the standard of twenty years ago; the public of to day demand a cheaper article than did the public of two decades back. Therefore it is obvious that the standard, unlike the yard and pound avoirdupois of the exchequer, cannot be kept under lock and key and referred to in cases of dispute. The only value of such testing as I have advocated refers to the relation of price asked with value received, and it is in this determination that grave difficulties are superabundant. The common complaint that rubber is not what it was would have more ground for its acerbity if prices also were at their old level, and it really is difficult to sympathize with the purchaser who with his eyes open buys the cheapest grades of rubber he can get hold of and then utters lamentations as to the quality thereof, basing his comparison on goods of older date and of higher price. It really is necessary to lay stress on this point of price in the testing of rubber goods by buyers, for it is obviously unfair that respectable manufacturers should be smirched with the mud of abuse when they have merely followed the implied or expressed demands of the buyer in supplying a cheap and probably nasty article.

THE INDIA-RUBBER INDUSTRY ABROAD.

NORWAY'S FIRST RUBBER FACTORY.

THE first rubber factory in Norway—that of the Aktieselskabet den Norske Galoge- og Gummivarefabrik—has been in successful operation for over a year. It is located at Mjondalen, one mile from Drammen and six miles from Christiania, the national capital, with facilities for transportation by rail and river, and near a waterfall which is utilized for electrical power. The capital is 600,000 kronen (about $225,000), supplied chiefly by citizens of Drammen. The principal product is rubber shoes, though some beer and wine tubes, packing, etc., have been made, and it is intended to add tires. The first shoes were ready by May 1, 1898, since which time the factory has been run constantly, turning out 800 pairs per day. Plans are now being carried out for increasing the production to 1500 pairs daily by September 1. There will then be employed 100 workmen and 60 girls. The yearly consumption of rubber shoes in Norway has been estimated at 300,000 pairs, which number is expected to be increased with the introduction of their manufacture at home. The chief dependence hitherto has been Russia. The Norway plant is equipped with machinery from Edinburgh. Crude rubber is bought in Liverpool and Hamburg; the reclaimed rubber used is of American origin. The new company have been very successful with their shoe production, and particularly with regard to to the varnishing of the goods. The office and business management is in charge of August Fladmark—with the title of *disponent*—who became familiar with the rubber industry in Germany. The company's director—corresponding to president, in America—is J. Rudolph. The manager of the works is M. Hassel, a chemical engineer, who brings to his work the benefit of a technical training received in Germany. The latter recently spent two months in the United States, studying points on factory management as well as the manipulation of rubber, leaving New York on his return on August 17.

PROFITS OF THE SILVERTOWN COMPANY.

AT the half yearly meeting of shareholders of the India Rubber, Gutta Percha, and Telegraph Works Co., Limited (London), the chairman stated that the turnover of the company in its general business had been greater than for any previous six months. But the question of profits would be affected by the continued high prices of raw materials and the keenness of competition. The company were shareholders in the Palmer Tyre Co., who had failed to get a judgment against the Dunlop company for damages for what they considered were infringements upon their patents [see THE INDIA RUBBER WORLD, August 1], but the question was still before the courts. Orders from various governments for torpedo cables afforded satisfactory proof that the company's manufacture of India-rubber insulated cables was appreciated. In 1894 they had tendered to lay a Pacific cable for the government for £1,517,000, which was the lowest tender made. Owing to the rise in raw materials, they estimated that £170,000 should now be added to that figure. The work being so large, the directors felt that the best interests of the company and of the state would be served by the distribution of the work among the various contracting firms. To prepare for eventualities the board continued from time to time buying India-rubber and Gutta percha, and it was anticipated that during the period allotted for the completion of the Pacific cable contract, even should the whole contract be granted to them, and although the market for raw insulating material is restricted, they would have ample opportunity of completing at a fair price the purchase of as much of these products as they might require. The usual dividend was declared.

RUBBER FOOTWEAR IN EUROPE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I much appreciate your paper, which I consider equal to the best technical papers in any business I know. I wish at times, however, that your information from this side was more accurate. I occasionally come across things that are certainly wrong. For instance, a short time ago you gave a list of firms making rubber footwear in Great Britain and included in it George MacLellan & Co., of Glasgow. That firm never made a shoe in their lives; they are a mechanical house. The companies making rubber shoes here are:

The North British Rubber Co., Edinburgh.
The Waverley Rubber Co., Edinburgh.
The Victoria Rubber Co., Edinburgh.
The Liverpool Rubber Co., Liverpool.

Three out of the four you will notice are in Edinburgh, the two smaller ones being offshoots from the big North British company. This was originally an American concern, started by the Ford and Meyer partnership. For some years it has been controlled by an American, Mr. William E. Bartlett, who has latterly called to his aid an active Scotchman, Mr. Stewart.

The frequent notices in your paper of the great sale in Germany, Sweden, and the neigboring countries of rubber shoes of

Russian manufacture, and the invitation you give to American manufacturers to enter this field, may cause, I think, a misunderstanding as to the position in these markets. It is true that large quantities of Russian shoes are sold; but they are sold abroad below cost, and if any other house tries the field they will only lose money. The explanation of this is that the selling of rubber shoes in Russia is a monopoly in practice and very high prices are exacted—so high in fact that the consuming public are very restive under it. The average Russian is too cowed to interfere with the powers that be, except under great pressure, but even the ruling classes find these prices more than they can put up with. The answer they get to their expostulations is, "How can our shoes be dear when we can export so many?" The shoes (a fair quantity, but in comparison to the total make of the Russian factories only a small portion) are sold cheaply outside in order that the price can be maintained at home. It is an unfair competition, but the closed door in commerce always is unfair.

A SUBSCRIBER.

Manchester, England, August 14, 1899.

RUBBER FACTORY OF FELTEN & GUILLEAUME.

THE extensive works of Felten & Guilleaume, called the "Carlswerke," at Mulheim a/Rhine, covering 98 acres and employing 4500 hands, not only form one of the most important establishments in the world for wire drawing, galvanizing, and the manufacture of wire ropes and electric cables, but their magnitude is increased by the policy of the firm of manufacturing all the accessory materials required in their industry.

The Gutta-percha insulated telegraph cables manufactured by this firm have been in use since 1853 for underground systems in cities and for crossing rivers and cables, having been supplied extensively to the governments of Germany and many other continental countries. The firm have taken a prominent part in the development of the German underground system of telegraphy, the Gutta-percha insulated lines supplied by them for this purpose having amounted, according to a recent report, to 3924 miles. In the development of telephone equipment the firm have substituted a vulcanized India-rubber or Okonite cover for the lead cover usual with telephone cables, when the latter are used overhead. Their manufacture of electric light cables, with a great variety of insulation, including India-rubber, has also been very extensive. In addition to supplying an important portion of the copper conductor wires, and especially of the iron and steel sheathing wires, used in ocean cables for more than twenty years past, the firm have manufactured and laid a good many short lines of submarine cable for home and foreign governments.

Felten & Guilleaume are entitled to rank as rubber manufacturers, therefore, if for no other reason than from being fitted out with the most modern machinery for cleaning and preparing raw India-rubber and Gutta-percha, and the manufacture of these materials for insulating purposes. But of late they have added the manufacture of rubber in other branches, including valves for pumps and pulsometers; plates and rods for tightening steam and water pipes, manholes, etc.; hose for gas, steam, water, and oil; spiral and braided wire hose; rubber belting; roll coverings for paper mills; and hard rubber in plates, rods, and tubes for electrical purposes. They give prominence, in their electrical work, to the Okonite insulation, which they manufacture on a large scale.

The Mulheim firm, under the present name, date from 1826. The ownership is now in the Guilleaume family alone. The firm are connected in an important way with the new Deutsch-Atlantische Telegraphen-Aktiengesellschaft, Köln, with 50,000,000 marks capital, and of which Karl Wilhelm Guilleaume is president. There are branches of the Mulheim works at Nuremberg, Vienna, and Budapest.

"OXOLIN" VS. "VOLENITE."

THE London *Electrical Engineering* confesses to having supposed, until recently, that "oxolin" referred to some fluid extract of beef, which indicates that the new material has not yet become widely known. A discussion is under way over the relative insulating qualities of "oxolin" and a newer material, "volenite." Our contemporary suggests that the "craze for high insulation per mile of cable has led to more faulty cables being produced than would otherwise have been the case," for the reason that the high insulation tests in the factory have been attained by means that have shortened the life of the insulation.

COMPANY NOTES.

OBLIGATIONS of the Continental Caoutchouc and Gutta Percha Co. (Hanover, Germany), incurred in 1889 and 1893 will be repaid on October 18 next at 105, and the obligations of 1896 at 102, the sum necessary having been provided by the issue of new shares.

= The fire in the Woolwich (England) plant of the Western Electric Co., on July 21, proved less disastrous than was implied in a paragraph in the last INDIA RUBBER WORLD, which was based upon a cable despatch. It is understood that their business suffered little interruption, partly on account of their transferring part of the work required in filling orders to some of the company's other factories.

= Mention is made of a proposed new rubber factory in Russia, to produce goloshes, waterproof clothing, and toys, for which St. Petersburg capitalists have formed a syndicate. The location will be in Wassila-Ostrow.

= The English firm of J. E. Hopkinson & Co., Limited, of the Pará Rubber Mills, West Drayton, are mentioned as having received an order from the East Indian railway for about 16,000 rubber buffers, in addition to the 40,000 supplied a few months ago.

= Ernst Diederichs has retired from the position of managing director of The Land- und Seekabelwerke-Aktiengesellschaft (Köln-Nippes) to become connected with the Norddeutsche Seekabel-Aktiengesellschaft, who will control the new electric cable factory at Nordenham, Germany.

GENERAL NOTES.

A WORKERS' union has been formed in the rubber and waterproofing trades in Glasgow, Scotland, in which about 1000 persons are employed. Complaint is made of the wages paid, especially for piece work, in which about half the hands are engaged. Notwithstanding the rise in the prices of goods, the pay of workers has declined, partly on account of the system in vogue, under which contracts are taken by men, who bring in a great number of girls to do the work at a very low rate.

= The factory inspector for Saxony says, in his latest annual report, in referring to the six rubber factories in the Leipsic district, that the vulcanization of rubber, as there conducted is very injurious to the health of the work people, and he asks for increased power to order improvements, in the way of increasing the size of the work rooms, facilities for ventilation, and the like.

= The contracts for the new telephone cables for the city and suburbs of Brussels have all gone to Germany, which is a great triumph for the German cable industry, as all European countries producing cables competed and had sent tenders. The contracts were given to Siemnes & Halske (Berlin), and Felten & Guilleaume (Mulheim a/Rhine), the leading electrical firms on the continent.

HUNTING FOR INDIA-RUBBER IN CUBA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: While recently in Cuba I became possessed of facts which I believe, in view of my general knowledge of the sources of crude rubber, will ultimately be of great value to the rubber industry. From the time when, as United States consul at Pará, it became my duty to collect some information for the volume of special reports on India-rubber published afterward by the government, I have felt an interest in whatever pertains to the development of this most important product of tropical America. In the hope that mutual benefits might result, some day, to the rubber industry and to myself, I have traveled much in the states where the best rubber abounds, in order to see whether means of intelligent supervision of the native labor might not be devised, whereby the valuable sap of the trees could be utilized at a lower cost than at present. I had become convinced that the extinction of the rubber trees on the lower Amazon was only a matter of time, and already the official statistics of the rubber produced in the state of Pará confirm my views.

Not only are the native trees disappearing, or becoming less productive, but the length of time necessary for new trees to reach the rubber yielding period is so great as to discourage the making of plantations so long as virgin trees are to be found upriver. There was a brief time when, by extra exertions and excessive tapping of the trees, the "islands" district was made to yield a yearly increase in weight of rubber, but the highwater mark has been reached, and the yearly decline which has begun will be all the more rapid because of this forced drain upon the trees.

In order to determine the location and extent of the reserve rubber forests of the Amazon basin I have explored that river from end to end, suffering the wreck of my canoe in a region in its headwaters never before visited by a white man, crossing the Andes five times, and traveling consecutively from Mollendo, a Pacific port from which Bolivian rubber is exported, to Pará, the greatest of all rubber marts. The information I have gained, during several years, is of interest; how to make it of practical value is another story. The rubber manufacturers of America and of Europe alike do not look into the future of the supply of raw material, but are concerned only with the current prices and with the supplies nearest within reach at the moment when they are ready to buy to fill a day's or a week's requirements. To invest money in exploiting a concession of rubber lands in eastern Peru, for instance, is too far beyond the scope of their business, even if it could be proved that rubber could by this means be put down in the factory at half the present cost.

Nor was the general investing public, even in London, which is accustomed to sending its money into the uttermost parts of the earth, favorably attracted to rubber when brought to them on a sound business basis. They were afraid of Peru, on account of the government's dealings, in times past, with the Peruvian Corporation. Some companies have been formed in London to acquire worn out "rubber estates" in various countries, at a vast profit to the promoters, but that has little bearing upon the subject of gathering rubber.

Feeling that the Amazon was too far away, and political conditions, in part of the territory, at least, too unstable, I next investigated the possibility of growing rubber in southern Florida, where the physical and climatic conditions appeared more nearly like those of the rubber producing countries than any other part of the United States. In connection with this purpose I visited the isthmus of Tehuantepec and other sections of Mexico into which American capital has been pouring of late to establish rubber and coffee plantations. Here I must say that it is only at the lower altitudes and where there is a combination of high temperature, moist soil, and great humidity that the *Castilloa* or any other rubber will ever yield a profit. The rubber trees will grow over a wide range of country, but those on the higher and dryer levels will never yield enough milk to make any profit possible. I found the same trouble in Florida—the soil too poor or sandy, the climate too dry. Besides, there has been frost, since my investigations in Florida began, at points too far south to permit the cultivation of rubber to be thought of seriously.

When the American occupation of Cuba began, I turned my attention to that country, believing that the natural conditions would prove favorable for rubber, while investments there under the "stars and stripes" would be safer than while the old régime prevailed. The secretary of agriculture at Washington, the Hon. James Wilson, expressed an interest in my plan to seek in Cuba a location for cultivating rubber, but he had no appropriation available for investigations of this kind. President McKinley was appealed to, and on his recommendation the secretary of war, General Alger, gave directions—through Adjutant General Corbin, to General Miles, commanding the army, and through him to General Brooke, in Cuba—by which I was afforded military protection, transportation on the island, and military courtesies at all army posts which I might reach in my travels.

I began to find rubber trees at once upon reaching Havana. At least I found the so called rubber tree seen in American houses growing in the parks to a large size, while in the grounds of the captain general's palace I saw the *Ficus religiosa*, which, while not yielding true caoutchouc, is near akin to the *Ficus elastica*. I concluded that if such trees could flourish in the comparatively poor soil of Havana, better things could be expected of the provinces of Matanzas and Santa Clara. Thither I made my way. In the city of Matanzas I showed General Wilson a large rubber tree in the grounds attached to his house—the former residence of the Spanish vice governor. Thence I found my way across the Island, to the extensive peninsula between the port of Batabano, due south from Havana, and Cienfuegos, shown on maps of Cuba as the Cienaga de Zapata. As the name *cienaga* indicates, this is swamp land; it is fertile, moist, and covered with a luxurious growth, including many varieties of commercially valuable woods, while the conditions favor the growth of many tropical fruits.

Here a tree was pointed out by my guide that exudes a yellowish gum which hardens precisely like Gutta percha. The natives have used this gum, from time immemorial, for filling decayed teeth. Another tree yields a peculiarly thick, sticky gum, used by the natives to glue wood together. The same substance is used as a birdlime. I was not at all surprised to discover, in the outer edge of the swamp, a considerable growth of the *Castilloa elastica*. It is a tree easily recognized by those who have traveled in Central America and Mexico. I was informed by Señor Don Enrique de Armas, of Pedrosa postoffice, in Matanzas province, that there was a time when *goma* (as they call rubber) was collected in the *cienaga* for export, by cutting

down the trees, which may account for the trees not being more plentiful at this time. However, I should say that the *Castilloa* is even now as plentiful here as in some parts of Mexico and Central America from which rubber is exported. Don Enrique, by the way, and his brother, Don José, have spent all their lives here—and they are both upwards of sixty years—having inherited large landed properties from their father.

The political conditions in Cuba to-day are as favorable for the investment of American capital as in any part of the world. The substantial and influential elements in the island are friendly to the American government, for they see in such a course the greatest possible development of their resources. I have mentioned already the conditions of soil and climate, of a sort to favor the growth of rubber. The Cienaga de Zapata is directly in the line of the gulf stream, and offers the first obstruction which that stream meets after starting from the South American coast. This fact was my starting point in reaching the conclusion that not only is southern Cuba suited, better than any other locality I have seen, for cultivating the *Castilloa elastica*—which grows native there—but it would be adapted also for the *Hevea* species, which produce the more valuable Pará rubber. I should be glad to correspond with any person who desires further information on this subject.

J. ORTON KERBEY.

New York, August 10, 1899.

NOTES ON SOME SOURCES OF INDIA-RUBBER.

PORTUGUESE EAST AFRICA.

THE export of rubber from the port of Mozambique, according to the report of the British consul for 1898, "is increasing and of good quality, fetching a high price in the European markets, but, with the exception of small quantities sent to London by the British Indian merchants, it is nearly all shipped to Hamburg." A consular report for Quilimane, in the same province, says: "A few consignments of rubber find their way to Germany and the Hague."

A company with $150,000 capital has been formed for the exploitation of rubber in unoccupied public lands in Inhambane, an old established district of Mozambique. The government has encouraged the enterprise with a view (1) to putting an end to the destructive native method of collecting rubber—cutting down the vines and extracting the sap by boiling—and (2) to increasing the production by fresh planting. The exports of rubber from Inhambane declined from 39 tons in 1896, and 35 tons in 1897, to 20 tons in 1898.

The monopoly is granted for twenty-five years, during seven of which the *concessionaires* must pay 50 reis per kilogram of rubber exported, and during the rest of the period 75 reis per kilogram. Within two years 20,000 rubber vines must be planted. A rental of 200 milreis per year must be paid for the land. After twenty-five years the *concessionaires* may elect to hand over the plantation or retain it at the same rate as previously paid. It is expected that during the present year considerable progress will be made in the direction of planting rubber. The above provisions do not prevent anyone from growing rubber on his own land and exporting it.

The rubber exported from the port of Beira in 1898 amounted to 49,520 pounds, of the value of £3441.

BRAZIL.

THE exports of Ceará (maniçoba) rubber from the seaport of Fortaleza, for five years past, have been as follows, in pounds:

1894.	1895.	1896.	1897.	1898.
322,579	420,439	713,519	1,046,524	2,218,300

Last year 2,047,632 pounds went to Europe and 170,668 pounds to the United States. The official valuation was 5,005,841 milreis. The Pará correspondent of THE INDIA RUBBER WORLD predicts that rubber gathering will become the leading industry in the state of Ceará, besides which an interest in the growth of maniçoba rubber is extending to several neighboring states. This tree produces seeds at an early age, and the sale of the seeds is a source of profit to planters. From various ports, including Pará, there were exported in 1898, for planting, 32,881 pounds of these seeds.

The British vice consul at Ceará (Fortaleza) reports a great amount of interest in rubber planting in that district, and that millions of new trees are expected to be growing within the next four years. He says that the quality of Ceará rubber is improving under the better methods of preparing it, introduced by rubber workers who have been in the Amazon district.

A report from Pernambuco gives the weight of maniçoba rubber shipped from that port during the first half of 1898 at 391,039 pounds, of the official value of 853,176 milreis. The British vice consul at Rio Grande do Norte reports satisfactory trading in rubber—presumably maniçoba or mangabeira. The exports were valued at £41,460 in 1897, against £10,300 in 1896.

The governor of the state of Sao Paulo offers a premium of 25,000 milreis for the largest plantation of mangabeira rubber formed during the next three years, with second and third premiums for the next largest plantations. The governor of the state of Pará advises the planting of Ceará rubber in dry locations within that state.

M. Eugene Poisson, commissioned by the French government to study the subject of rubber planting in the colonies, contributes to the *Revue Coloniale* (Paris) a report on a visit to Brazil, where he obtained seeds of the Ceará tree, though he found their export discouraged. Regarding the premiums offered for planting in Brazil, he writes: "Once the bounty has been gained, the plants have been abandoned to themselves, and no care has henceforth been taken to assure their success."

The British consul at Bahia reports: "The quantity of rubber received during 1898 increased materially, the high prices realized inducing collectors to proceed further afield for supplies. In the unexplored interior of this state, inhabited by different tribes of Indians, some of whom are cannibals, large tracts of forest with abundance of rubber trees are said to exist, but unfortunately, owing to the difficulties of export, through a country without roads, this source of riches is unavailable." The exports of rubber during 1897 were 515,634 pounds, of the official value of £19,223. It went to the United States, England, Germany, and France.

The exports from Bahia during April, 1899, reached 34,390 pounds, of the official value of 102,267 milreis, paying an export duty of 15 per cent.

ECUADOR.

"IT is to be noted," writes the British consul at Guayaquil, "that the increased value and demand for India-rubber has again attracted the attention of collectors to this native product, and they have proceeded to collect it from places much more distant from the coast than formerly, and where it did not previously pay to extract the rubber on account of the expenses being heavier than the value. This has resulted in a considerable increase in the exportation. A large proportion of the

rubber which previously used to go almost entirely to the United States now finds its way to London and Europe. The value of rubber in the state in which it comes down from the forest has been varying from £9 to £10 the 100 pounds."

The exports of rubber from Guayaquil have been:

	Quintals.	Value.
In 1897	5904	£47.232
In 1898	9324	93,340

MEXICAN RUBBER EXPORTS GROWING.

THERE has been a recent increase in the exports of crude rnbber from Mexico, but whether on account of the new plantations of rubber trees it is, as yet, too early to say. For some years past the total output of Mexican rubber has been comparatively unimportant, on account, as is supposed, of the destruction of the trees formerly most available by careless tapping. The figures which follow are derived from statements prepared for THE INDIA RUBBER WORLD in the secretaria de hacienda y credito publico, at Mexico, and relate to fiscal years ending June 30:

YEARS.	Pounds.	YEARS.	Pounds.
1889-90	300,685	1894-95	189,169
1890-91	202,951	1895-96	182,474
1891-92	141,203	1896-97	142,874
1892-93	122,058	1897-98	192,324
1893-94	169,026	1898-99	(a) 491,646

[a For 11 months.]

The figures given here for 1898-99 are brought down only to May 31, there not having been time yet to complete the record for the fiscal year. The value of rubber exports from Mexico fell from $169,385 (silver) in 1887-88 to $47,584, in 1891-92. During the eleven months ended May 31 last the value reached $288,272 (silver).

YUCATAN.

THE following advertisement from the British Honduras *Government Gazette*, published at Belize, is a specimen illustration of the methods being used to further development in a certain section:

EAST COAST OF YUCATAN AND THE BAY OF CHETUMAL.

LOGWOOD AND MAHOGANY CUTTING AND EXTRACTION OF RUBBER AND CHICLE.

Mr. J. E. Plummer begs to announce his appointment as agent in British Honduras of Srs. O. Molina & Cia., Sucrs., and Don Rafael Peón, respectively and both of Merida.

Mr. Plummer is now prepared to grant permits for the cutting of Logwood and Mahogany, and the bleeding of Rubber and Chicle on the lands conceded by the government of Mexico to the above named firms.

The Molina concession covers the area between Punta Flor and Ubero, on the east coast of Yucatan. The Peón concession commences at Ubero and, following the coast line in a southerly direction, passes through the Boca Bacalar Chico and runs north to rio Kik.

Particulars as to rates of royalty for cutting woods and extracting gums may be obtained in Mr. Plummer's office.

Belize, April 15, 1899.

BRITISH HONDURAS.

IN the colony the "bleeding of rubber" is limited to the holders of permits granted by the public authorities. The *Government Gazette* has reported of late a considerable number of applications for such permits, the list from January 1 last being:

Jan. 11—Michael McCoy.
Jan. 23—Nicasio Sambula.
Feb. 8—Juan Ventura Hutchim. [To bleed Rubber and Chicle.]
Feb. 9—Frank Fisher.
Apr. 4—Bruno Gonzales.
Apr. 17—Pedro Ignacio.
Apr. 17—David Grant.
Apr. 19—Nicasio Somula.
Apr. 23—Edward Salgado.
May 31—Thomas Augustin.
June 3—James Wetherburn.

GUATEMALA.

THE United States consul general at Guatemala, A. M. Beaupré, has written an official report calling attention to the importance of the rubber industry in his district, of the efforts of the government to foster it, and of the vast amount of available land in Guatemala especially suitable for the growth of the rubber tree. In the coast regions the forests abound in wild rubber trees, but the great difficulty experienced by the owners has been to protect their property from theft. No only has the rubber been stolen, but the destructive methods used in extracting it have destroyed vast numbers of the trees. Under the decree now formulated, no one can extract or sell rubber without being empowered to do so by license from the government, and suitable penalties are imposed for breach of the law.

In addition to this, the government offers a premium or bounty to the owners amounting to 1 *caballeria*(=112 acres) of land for every 20,000 rubber trees four years old which shall have been planted after the date of this decree.

COSTA RICA.

A WRITER on "The Extraction of Rubber on the Coast of Costa Rica," in *El Progresso de Mexico*, refers to the gathering of gum in violation of the law intended to stop this industry for awhile, in order to allow the trees on the public domain to rest. He says: "As the greater part of the rubber is gathered in the mountains along this coast, the gatherers or cutters have a thousand methods of gathering and coagulating it without discovery. They make a hole in the ground at the foot of the tree in which the sap gathers. It is quickly coagulated by the addition of sap of the *amole* (a creeping vine very abundant along the coast), and covered up with earth. At night they return for the gum. Of course, rubber coagulated in this way carries with it earth and other foreign substances."

JAVA.

EXPORTS from the islands of Java and Madura during the past four years have been as follows, in pounds:

	1895.	1896.	1897.	1898.
India-rubber	90,848	45,625	59,840	67,728
Gutta percha	39,848	3,100	3,128	25,704

BRITISH NEW GUINEA.

INDIA-RUBBER, according to the last published report by the lieutenant governor of this colony, first figured as an article of export in 1894-95, when some 2 cwt. of it, valued at £27, went abroad. In 1895-96 the quantity exported was nearly 3 tons, while in 1896 97 it amounted to 16 tons, valued at $3472. "Taking into consideration," he says, "the fact that this product is obtained from several indigenous trees and plants, that it exists over a great area, and that there is in the colony a large amount of country that would appear to be eminently suitable for the cultivation of rubber trees, it seems very probable that this may eventually become the principal export from the possession." From other sources than that quoted from above, there is reason to believe that the output of rubber has continued to increase since the dates here given.

RUBBER PLANTING IN THE FAR EAST.

THE conservator of forests in Assam—Mr. A. L. Home—favors the beginning of systematic tapping of the *Ficus elastica* trees in the government plantation at Charduar. He suggests the tapping of the older portion of the plantation—amounting to 318 acres out of a total of 1700—and, basing his calculations upon some experimental tapping, and the prices obtained for 170 pounds of the product in London, he figures out the following estimate:

Proceeds of 318 acres (8000 pounds at 2*s.* 8*d.*) in London	£1066 13 4
Gathering same, and expenses of marketing	373 4 0
Profit	£ 693 9 4

The rate of profit is estimated at 50 per cent. on the total cost to the government up to date of the 318 acres in question.

RECENT RUBBER PATENTS.

A LIST follows of United States patents granted recently for inventions in relation to India-rubber and Gutta-percha, or involving applications thereof.

ISSUED JULY 4, 1899.

627,972. Means for restoring air-pressure in pneumatic tires. John F. Brady, Chicago.

627,984. Rubber heel. James W. Cross, Fall River, Mass.

628,185. Finger tooth brush. Charles W. Richards, San Francisco.

628,209. Cushion sole. Humphrey O'Sullivan, Lowell, Mass.

628,284. Rubber tire for carriage wheels. George J. Quinsler, Brookline, and George W. McNear, Auburndale, Mass.

628,323. Rubber time stamp. Samuel H. Hoggson, Chicago.

ISSUED JULY 11, 1899.

628,726. Gas main bag. George W. Schultz, Philadelphia.

628,728. Machine for making articles of flexible material. Alfred Shedlock, Jersey City, N. J., and James A. Hudson, New York, assignors to the I. B. Kleinert Rubber Co.

628,729. Apparatus for setting or curing flexible material or articles formed therefrom. Alfred Shedlock, Jersey City, N. J., and James A. Hudson, New York, assignors to the I. B. Kleinert Rubber Co. [Original application filed January 27, 1899. Divided and this application filed May 18, 1899.]

628,845. Pneumatic wheel. Edward E. Powers, Geneva, Switzerland.

ISSUED JULY 18, 1899.

628,923. Rubber dam holder. John P. Carmichael, Milwaukee, Wis., assignor to The S. S. White Dental Manufacturing Co.

628,934. Woven elastic fabric. Joseph W. Green, Jr., and George Astill, Easthampton, Mass.

629,054. Buckle. Hubert Wagner, Jr., and James H. Dailey, Burlington, Wis., Wagner assignor to Dailey.

629,192. Billiard cushion. Dudley Kavanagh, New York.

629,230. Shield for pneumatic tires. Frederick Beaven and Joseph Delphin, Chicago.

629,315. Hose-leak stop. Clatonia J. Dorticus, Newton, N. J.

ISSUED JULY 25, 1899.

629,324. Dental dam. Charles C. Allen, Kansas City, Mo.

629,745. Rubber wheel-tire. Jean F. Gommeret and Leon Gommeret, Troyes, France.

DESIGN PATENTS.

31,162. Cushion heel. Joseph Zsiday, New York. Issued July 4; term of patent, 7 years.

31,217. Overshoe. Charles J. Bailey, Newton, Mass. Issued July 11; term of patent, 7 years.

31,231. Syringe nozzle. James T. Wetherald, Boston. Issued July 18; term of patent, 14 years.

31,232. Nipple. Eugene Pearl, New York. Issued July 18; term of patent, 14 years.

31,276. Cushion for hand stamps. John A. Heany, Philadelphia, assignor of one-half to William L. Teter, same place. Issued July 25; term of patent, 14 years.

31,279. Syringe. Charles J. Davol, Providence, R. I., assignor to the Davol Rubber Co. Issued July 25; term of patent, 14 years.

TRADE MARKS.

33,275. Chemical composition, a substitute for hard rubber. Stahl & Straub, Philadelphia. Issued July 25. [Essential feature, the title "Xelton." Used since June 17, 1899.]

THE ENGLISH PATENT RECORD.

APPLICATIONS FOR PATENTS.

11,139. John Henry Price, 164, Corporation street, Birmingham. Improvements in construction of tires for cycles, vehicles, and motor carriages. May 29.

11,159. Alfred Julius Boult, 111, Hatton Garden, London. Improvements in a process for reclaiming rubber waste [Arthur Hudson Marks, United States]. May 29.

11,194. John Frederick Pascall and Frank Hart Licence, 45, Woolcomber street, Dover. Improvement in pneumatic tubes, tires, etc., to prevent punctures. May 30.

11,197. Robert Adams Hall, 3, St. Nicholas building, Newcastle-on-Tyne. Improvements in pneumatic tires for carriages, motor cars, and like vehicles. May 30.

11,201. Samuel Henry Crocker, 37, Chancery lane, London. Improvements in air bags and valves for same for pneumatic copying devices. May 30.

11,223. Joseph Hall, 50, Wellington street, Leeds. Improvements in pneumatic or other tires and tubes for conveying liquids, gases, or air. May 30.

11,229. George Thomas Collins and Thomas Kennedy, 52, Chancery lane, London. Improved powder for use in pneumatic tires. May 30.

11,277. Annie Gertrude O'Brien, 6, Bank street, Manchester. Improvements in hot water bottles. May 30.

11,299. Edward Charles Vaudrey, 47, Endless street, Salisbury. Improvements in pneumatic tires. May 31.

11,326. Heinrich Peter Ludwig Erichsen, 7, Quality court, Chancery lane, London. Improvements in hoof pads. May 31.

11,385. James Cardwell Quinn, 18, Hertford street, Coventry. Improvements in pneumatic tires. June 1.

11,393. Patrick Millar Matthew, Victoria India Rubber Mills, Edinburgh. Improved corset shields. June 1.

11,442. Henri Cochard and Jules Godefroy, 4, South street, Finsbury, London. Improvements in pneumatic tires. June 1.

11,457. Albert Whisler, Norfolk house, Norfolk street, Strand, London. Improved tool for inserting the stems of inflation valves in pneumatic tires. June 1.

11,500. Edward William Frankenberg, 226, High Holborn, London. Improvements in air cushions. June 2.

11,582. George Hatchett, Jr., 158, Edmund street, Birmingham. Improvements in means for attaching pneumatic tires to wheel rims. June 5.

11,588. Adam Cairns, 115, St. Vincent street, Glasgow. Improved substitute for India-rubber or Gutta-percha. June 5.

11,898. James Alexander Gibson, 104, Royal avenue, Belfast. Detachable tire for cycles and vehicles. June 8.

12,015. James Dods, Leeside, Cardross, Dumbartonshire. Pneumatic riding and driving saddles or pads for horses, and pneumatic driving collar for same. June 9.

12,109. Henry Sansom, 18, Fulham place, Paddington, London. Improvements in India-rubber tires for vehicle wheels. June 10.

12,122. Thomas Henry Griffith, 37, Chancery lane, London. Improved storm proof fastening for mackintoshes. June 10.

12,199. William Albert Dagworthy, Denby Cottage, Sidmouth, Devon. Dagworthy's rimless rubber tires for carriage wheels. June 12.

12,378. Charles Lee, 128, Colmore row, Birmingham. Improvements in pneumatic tires for wheels of velocipedes and vehicles. June 14.

12,424. Walter May and Frederick Warner, 6, Bank street, Manchester. Improvements in appliances for locating or detecting punctures in pneumatic tires. June 14.

12,465. John Reid and John Leel, veterinary establishment, Wells, Somerset. Pneumatic horse collars and saddles. June 15.

12,538. Jean Georges Deiss, 40, Chancery lane, London. Improved process for extracting India-rubber or Gutta-percha from vegetables which contain them. [Date applied for, February 14, 1899, being date of application in France.] June 15.

12,719. Charles Merington, 18, Avington road, Penge, London. Improvements in pneumatic tires. June 19.

12,908. Stuart Hallows and Arthur Tucker, 82, Mark lane, London. Improvements in pneumatic or inflatable tires. June 21.

12,953. Philip Lace, 6, Lord street, Liverpool. Improvements in India-rubber, Gutta-percha, or other heels, soles, or pads, for fixing the same to boots, shoes, and other articles. June 21.

12,991. George Wartnaby, 166, Fleet street, London. Improved meth-

od of preparing horse shoes with rubber plugs to prevent slipping. June 22.

13,106. George Whittaker Holt, 18, Southampton buildings, Chancery lane, London. Improvements in pneumatic tires. June 23.

PATENTS GRANTED.—APPLICATIONS OF 1899.

3491. Cain, W., and Hall, F. L., Perth, Ontario. Rubber horse boot.

3630. Smelt, W. A., Kingston on Thames, Surrey. Pneumatic tire with anti-slipping projections on the sides.

3776. Lake, H. H., Middlesex. [For J. B. Forsyth, Boston, U. S. A.] Machine for making tubes for pneumatic tires.

3789. Culverwell, A., and Price, H., Birmingham. Double tube tire.

3909. Biffen, R. H., Cambridge, and Howard, E. W., Ravenstone, Keswick, Cumberland. Centrifugal machine for coagulating rubber sap.

3985. May, J. M., Manchester. Pneumatic tipped foot-ball shoe.

4025. Heyden, W., Hallau, Switzerland. Elastic web tire.

4208. Holt, H. H., Derbyshire. Rubber fishing float.

4209. Bowley, W. H. K., London. [For H. Witzenmann, Pforzheim, Germany.] Metallic tread pneumatic tire.

4243. Iles, C. E., Birmingham. Vulcanite and metal thimble.

4360. Henry, A., Edinburgh. Grooved surface golf-balls.

4444. Boult, A. J., Middlesex. [For V. Carrier, Annecy, France.] Combined cushion pneumatic tire.

4560. Richardson, F. G., and Hardcastle, H., Birkby, Huddersfield, Yorkshire. Ventilated waterproof garments.

4605. Steuart, D. S. S., Pretoria, South African Republic. Celluloid tread pneumatic tire.

4658. Jenkins, M. C., Glasgow. Rubber dental plate.

4678. Hearson, C. E., Camberwell, Surrey. Insulating compound.

4772. Haigh, W. S., Huddersfield, Yorkshire. Ventilated waterproof garment.

4773. Kay, S. V., and Kay Brothers, St. Petersgate Mills, Stockport. Soap substitute.

4921. Kullak, F. C., Berlin. Metal and rubber packing.

4991. Shaw, A. B., Medford, Mass., U. S. A. Method of making pneumatic tires.

5019. Teich, C., Vysocan, Austria. Solid soft rubber tire with vulcanite bed.

5051. Wood, F. L., Mayfair, London, and Girling, R., Putney, Surrey. Aluminum tread vehicle tire.

5070. Dreisbach, W. I., Williamsport, Pa., U. S. A. Method of attaching pneumatic tires.

5071. Newton, J., Dresden, Staffordshire. Rubber soles and heels.

5085. Stephens, E., Totnes, Devonshire. Method of waterproofing fabrics.

5123. Thompson, J. M., Manchester. Waterproof compound.

5254. Richardson, S. T., and Price, R., Birmingham. Metal tire with rubber tread.

5430. Swain, W., and Swain, L. H., Sharples, Bolton, Lancashire. Tread tire.

5454. Willis, A., Brussels, Belgium. Rubber scrubbing brush.

5470.—5471. Doughty, H. J., Providence, R. I., U. S. A. Molding press for tires.

5490. Lake, H. H., Middlesex. [For F. McDonald, Medford, Mass., U. S. A.] Rubber heels.

5520. Pace, H., Hampstead, London. Steel tube pneumatic tire with rubber cover.

5556. Smith, O. M., and Bradley, L. W., Cleveland, Ohio, U. S. A. Non-puncturable pneumatic tire.

5653. Baines, R. B., Liverpool. Pneumatic tire protector.

AIR BRAKE HOSE IN RUSSIA.

THE important demand for India-rubber in connection with the use of air brakes on American railways seems likely to be duplicated in Europe. It is estimated that, after all the existing rolling stock on the American roads shall have been equipped with air brakes, under the laws making their use compulsory, the total yearly demands for rubber hose, for renewals, will amount to 3,000,000 feet. Abroad, Russia appears to be the first to take up the air brake in a wholesale way. On June 5 last, an imperial decree orderedthat all freight locomotives and tenders, and a sufficient number of freight cars to secure brake control of all freight trains in Russia, shall be equipped with air brakes prior to January 1, 1903. It is computed that this decree requires the production of air brake apparatus for 350 locomotives and tenders and 1750 freight cars during each month until the date above given, the total purchase amounting to from $12,000,000 to $15,000,000. This business, it seems, has been captured by the Westinghouse people. Growing out of negotiations begun by the Westinghouse Air Brake Co. (London), contracts were made for the award of the business by the government, with the condition that the brakes should be made in Russia. Hence, a new company has been formed—the Société Anonyme Westinghouse—a site in St. Petersburg purchased, and the installation of manufacturing plant begun.

Respecting the rubber requirements in this case, Mr. H. H. Westinghouse, general manager of The Westinghouse Air Brake Co. (Pittsburgh), stated to THE INDIA RUBBER WORLD:

"When in Russia I made some inquiries with respect to the sources of supply of the rubber material we would need in connection with our enterprise, and came to the general conclusion that we should have to purchase it all in Russia, as the duties on imported material would no doubt make prices prohibitory. We furthermore found that we can get very satisfactory material there. We do not, therefore, think there is anything of general interest to rubber manufacturing companies, outside of Russia, in connection with our affairs."

RUBBER GOODS EXPORTS FROM NEW YORK.

EXPORTS from this port, during the five weeks ended August 1, 1899, classed as "India-rubber goods," amounted in value and were consigned as follows:

Great Britain	$33,153	Chile	$ 150
France	1,588	Venezuela	365
Germany	6,373	Australia	5,582
Belgium	1,140	New Zealand	2,947
Italy	3,880	British East Indies	317
Denmark	174	Hawaii	430
Norway and Sweden	866	China	451
Spain	601	Hong Kong	55
Switzerland	608	Japan	2,432
Mexico	5,542	British Africa	3,816
Central America	1,075	Portuguese Africa	300
British Honduras	16	Other Africa	2,660
Cuba	4,832	British North America	251
Porto Rico	467		
British West Indies	109	Total, June 28–Aug. 1. [Five Weeks.]	$82,302
British Guiana	157	Total, May 31–June 27..	81,804
French Guiana	13	Total, Apr 26–May 30.. [Five Weeks.]	78,498
Brazil	989	Total, Mar 29–Apr 25..	75,288
Argentina	12	Total, March 1–28.	60,073
Ecuador	256	Total, February 1–28.	42,902
Colombia	580		
Peru	115		

The value of such goods exported from New York amounts usually to about 60 per cent. of the total for the United States. These statistics do not include any rubber goods that may have been embraced in exports classed as electrical material, dental material, bicycle material, and the like, or tires shipped on bicycles. There were exported during the same period of five weeks dress shields valued at $24,920, of which $21,488 worth went to Great Britain. The exports for the same time embraced an item of "Electric cable" for Dublin, $9612; air brakes for Mexico, $2000; India-rubber machinery for Glasgow, $5000; India-rubber scrap, $21,064. Crude rubber was exported to the value of $24,914.

HEARD AND SEEN IN THE TRADE.

A WIDE awake, capable, and active American, who is winning success in introducing abroad a useful invention which originated in this country, with headquarters in Paris, was in New York lately to consult his principals. India-rubber enters largely into the article referred to, and, knowing that the laws of France require anything patented there to be manufactured in that country in order to render the patent valid, I asked the visitor about his impressions of the French rubber industry. "It does not begin to compare with what we have in America," said he. "While it is true that we are obliged to have some of our goods made in France in order to protect our patents in that country, we have just as few made there as possible. We can better afford to pay the French duty on imported rubber goods than to handle the product of the French factories in this line. Since we do have to import our goods, we naturally have them made in the United States. It seems to me that the French cannot master the art of working rubber. One of the big English concerns, having taken out some patents in France, and wishing to contract for business in that country, decided that it would be advisable to establish a factory on French soil, which they did. It seemed equally advisable to employ French workpeople, which they also did. But I am told that the experiment has been far from satisfactory, apparently because the French cannot be brought to work in rubber successfully."

* * *

WHAT appears above is corroborated in a measure by the manager of a rubber manufacturing corporation in this country which has several hundred thousand dollars invested—all made in exploiting an invention made when the founders of the company had hardly enough money between them to pay their patent fees. In fact, they had to apply to friends for financial assistance on this score. "When these young men had gotten fairly started here," said their present manager, "they went abroad and licensed manufacturers in France, and probably elsewhere in Europe, expecting a repetition abroad of their successes at home. But no returns ever came from the foreign licensees. All the money that ever came from that source would not have kept one man in cigars. The goods made on the other side were a failure because the people handling them didn't understand their business. Not even now, when all the patents have expired, have the European manufacturers taken up this line, although the goods ought to appeal to the public as well on the other side of the ocean as on this. Now that the patents are no longer in force, our firm have had propositions from foreign dealers looking to taking up the sale of these goods, from the factory in America."

* * *

THE "boom" of the bicycle business at the start was as nothing compared with that of the automobile nowadays. And what is more, the troubles of the rubber manufacturer over the tire problem in the early days of bicycling promise speedily to be forgotten in the presence of the new problem of how the automobile shall be tired. I have met not a few rubber superintendents lately each of whom is confident of being able to evolve the winning automobile tire, all of them keeping a pneumatic tire foremost in mind. As one of them said: "We have an entirely new proposition to deal with. Until the automobile came in we knew the pneumatic tire only in the form suited to the bicycle and the lightest forms of vehicles. The first thought of the average manufacturer has been to put precisely the same kind of tire upon the automobile, only increasing its size and strength. But there will have to be some radical changes of construction before a pneumatic tire will be produced that can stand the strain of these new vehicles."

* * *

A VERY pertinent question in this connection is whether, after all, the pneumatic tire is going to be the standard for automobile equipment. Mr. G. Henry Condict, chief engineer of the Electric Vehicle Co., told me once that he thought a mistake had been made in ever offering for public hire a pneumatic tired electric cab. Other cabs on the streets, with solid rubber tires, seemed to afford the public full satisfaction, and had the first automobiles seen in New York not been equipped with pneumatics, everybody would have been pleased with the easy riding effects of solid tires on vehicles of this type. But, passengers having once tried the pneumatic tires, they hesitated thereafter to get into automobiles with solid rubbers.

* * *

UP to date the interest in automobiles in America has been confined largely to the principal cities, where the streets are at least measurably well paved, and where central stations exist for the convenient charging of storage batteries. But in France, according to a recent visitor to the United States, the first idea of a city man who gets hold of one of the new vehicles is to make for the country. Touring is a favorite form of amusement, and the automobile lends itself readily to this purpose. This affords one reason why gasoline motors are preferred in France, since central stations do not abound in the country districts. The practice of touring also makes the use of solid tires preferable. By the way, I have seen in a foreign newspaper a statement to the effect that in an eight days' automobile race over the roads of France, Belgium, and Holland the tires that best stood the wear and tear were of the solid type and of American invention. "It was found that the tires were in perfect condition, being neither cut, scored, or marked, nor had the tire shifted. The tires had a run of 50 hours 30 minutes, the average speed being 17.27 miles per hour."

* * *

"WHILE a certain number of horses have been displaced by the new vehicles already in use, it is likely to be a long while before the horse disappears already," said a man engaged in selling supplies for horsemen. "You will remember that when stage coaches were superseded by railway trains the number of horses went on increasing. When the bicycle appeared some people thought the horse was doomed, and particularly when electricity took the place of horses on the street railways. But there are more horses in the United States to-day than ever before, and we never before sold so many goods for horsemen's and stablemen's use."

* * *

SPEAKING of horses, reminds me of another growing use of rubber. I am told by a rubber man that a single concern has made within the past twelve months 160,000 sets of rubber horseshoes. The manufacture of rubber horseshoe pads is also on the increase. There is strong competition between the two lines of goods, the advocates of rubber horseshoes contending for the superiority of their devices over rubber pads, and *vice versa*. It is understood, of course, that steel shoes are used in connection with both.

"OUR rubber shoe trade during June and July was the largest in our history," said the head of a jobbing house of several years' standing. "We are not taking credit to ourselves altogether for this increase. But the country is growing more prosperous all the time, and this naturally leads to a larger demand for rubber goods. The increase of city populations, particularly, adds to the demand for rubber footwear. The best center of trade in this line is Chicago, where the winter is sure always to bring much nasty weather. The local demand in Chicago alone is greater than that of many large states. Even the south is beginning to take good quantities of rubber shoes. This is due both to the greatly improved condition of the people in recent years, and to better care in taking care of themselves as a means of preventing illness. One reason for the favorable showing made by the sales of rubber shoes for the coming winter's demand is to be found in the exceptional exhaustion of stocks last winter, on account of the general heavy snowfall."

* * *

"THERE is not only practically nothing new in styles of rubber footwear this year," said a dealer, "but a good many items seem to have been dropped from manufacturers' lists. It is a good thing all around. The fewer styles and shapes there are to be considered, the easier it is for jobbers and retailers to decide upon their orders, and also for the manufacturers to arrange for their season's output. Everything now is in broad or rounded toes; there are no longer any pointed or extra narrow shapes, so that the buyer finds it easier to be fitted. The tendency has been toward a smaller list of lasts for several years past, and it has been heartily welcomed by the trade, as can be imagined when it is considered that, in order to keep a complete assortment in stock, it was necessary at one time for a dealer to order rubber boots and shoes from about 6000 different lasts, allowing for all the brands and sizes and styles."

* * *

"THE shoe jobbers' associations have done all that they started out to do," said a member of the rubber shoe jobbing trade who, while not a member of any such association, is in a position to know what they are doing. "They have kept prices steady, by putting an end to cutting, and made profits more certain in the handling of rubber footwear. There never was any excuse for the trade not to make money on a line of goods so staple as rubber boots and shoes, and the jobbers had nobody to blame but themselves if they gave away the whole benefit of their discounts in trying to take away each others' trade."

* * *

A CERTAIN enterprising manufacturer of lasts for rubber shoes was recently asked if it were not true that the formation of a general shoe trust would eventually lead manufacturers to make their own lasts, and thus leave him without customers. In reply he said: "Various concerns have put in machinery and made their own lasts from time to time, but the result has not been altogether satisfactory. You see in this world a man isn't any smarter than he is obliged to be, and the head of a last department for a big corporation, where his salary is a fixed amount and his product a certain quantity, is n't spurred to do his best, as the outsider is. The element of competition having been eliminated, without his being aware of it his product deteriorates. On the other hand, the man who is making lasts for a number of concerns in competition with others who are working hard for the trade, is constantly devising new patterns, better means of manufacture, and lasts that will increase the value of the customers' goods. By that means he secures his customers, and incidentally makes his living. The rubber shoe manufacturers would be foolish to do anything that would stop individuality and suggestiveness in these lines."

* * *

"THERE are a lot of other things than looking after selling prices to be considered by the rubber manufacturer who is out for profits," said a man who has proved his capacity both to make and to sell goods. "I never yet neglected an opportunity to test a new grade of rubber, and I have often found it to pay. When the first lot of 'Ceará scrap' came here, the manufacturers fought shy of it, simply because it was a new thing. A little experimenting showed me that a use could be found for it, and for a while I took all that I could hear of. It was low in price at first, and the result of my experimenting was that in a single year I figured out $25,000 in extra profits, due to the use of a cheaper raw material than other manufacturers were using, though it served the purpose equally well. No doubt there are other little known gums that would offer an equally good opportunity."

* * *

AN extensive manufacturer assures me that a decline in crude rubber from 10 to 20 per cent. would be necessary to justify a material decline in selling prices. One thing to be considered is that the stocks of goods now in hand were made up of raw materials which were bought at the highest prices. He added that, while there may be a tendency toward lower prices for Pará rubber, it is more apparent than real, the fact being that rubber coming forward at this season loses more by shrinkage than later in the season, requiring a larger number of pounds to yield the same result.

THE MAN ABOUT TOWN.

SUCCESS OF THE CONGO RAILWAY.

THE Congo railway, which is doing much to facilitate the marketing of the Congo rubbers, completed its first year of operation, through its length of 238 miles, early in July. The road is earning dividends already, and its success has made African enterprises very popular in Belgium. Hence surveys are in progress for additional lines of railways, from Stanley into the interior of the Congo state, which will be in position to connect with Cecil Rhodes's "Cape to Cairo" road when that is built. During May, 1899, the receipts of the Congo railway, from freight and passengers, were $232,000, and in the first eleven months of its operation its gross earnings were $1,690,138.

DEODORIZATION OF RUBBER RINGS.

AT a recent meeting of the Verein der Mineralwasser-Fabrikanten, in Germany, the following methods were proposed for killing the odor of rubber rings:

Treating the rubber with solutions of caustic potash, or caustic soda;

Treatment with potash or soda, since caustic potash and caustic soda injure the rubber;

Boiling with alkaline soaps;

Boiling with lescive phenix—calcined soda and waterglass; and

After treatment with soda, leaving the rubber for some time in a solution of cooking salt (10 to 15 per cent.).

ADOLPHO BALLIVIAN, of Bolivia, was reported lately to have returned from Europe with a party of engineers for surveying a proposed new railway route around the falls of the Madeira river. He was said to have the support of Belgian capitalists.

NEW GOODS AND SPECIALTIES IN RUBBER.

NEW FEATURES IN AUTOMOBILE TIRES.

EVERYBODY has now become familiar with the type of solid rubber vehicle tire which is held in position by two heavy steel wires passing longitudinally through the rubber. The ends of the wires are welded together by electricity, while being drawn tightly together by mechanical means, the ends of the rubber meanwhile being shortened by compression to enable the operator to reach the wires. While tires so fastened to the wheel have come into wide use, in preference to the older type, which was held on by means of compressing the rubber within the flanges of the steel rim, and have given general satisfaction, it was found, when the new tire was tried on automobiles, that new conditions had to be met. It appears that in the case of self-propelling vehicles there is a greater element of the friction which induces "creeping" than where the vehicles are drawn by horse or other power. To overcome this, it has been found necessary to devise means for holding the rubber tire more firmly in position, and this has been accomplished by increasing the relative size of the wires and also by adding to their number. Instead of only two wires, therefore, running parallel through the rubber portion of the tire, four parallel wires are used for automobile equipment, the wires being much larger proportionately than those used in ordinary cab tires. Some change has become necessary in the machinery for applying the four-wired tires, particularly in the welding process, a larger machine being required for welding four wires at once than for two wires. These points apply to tires manufactured under the A. W. Grant patent, known also as the Kelly-Springfield tire. [Consolidated Rubber Tire Co., New York.]

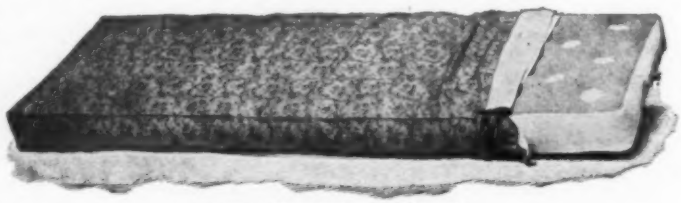
THE HENDRICKSON EXERCISER.

THE HENDRICKSON EXERCISER.

IN the construction of this article the cables used are made of the finest vulcanized rubber thread, braided in a manner calculated to contribute to their strength. All the other parts are highly nickeled. The purchaser has the choice of four different strengths of cable, it being pointed out that the use of too strong a cable will exhaust rather than exhilarate the user. Cables should be selected that pull easily; as the user gains strength, other sizes may be substituted. This article retails at $2. [Manhattan Web Co.—E. Read Goodridge, treasurer—No. 180 Grand street, New York.]

THE PERFECTION AIR MATTRESS.

THE manufacture of high grade air mattresses is a line of air work that few rubber manufacturers care to enter upon. The goods require skill in manufacture, integrity in material, and intelligence in marketing of a high order. It is therefore a high compliment to the ability of The Mechanical Fabric Co. (Providence, R. I.) to dwell upon the fact that they are to-day making the most complete and popular mattresses, pillows, and cushions of any concern in the United States. The value of the air mattress is so great and its virtues so many, that it is a marvel that it is not in general use. What other mattress for instance is non absorbing, vermin proof, durable, odorless, portable, and economical? What so useful for yachtsmen, for campers, for invalids, for the home? It seems almost a hygienic necessity, and it is well named "Perfection."



THE PERFECTION AIR MATTRESS.

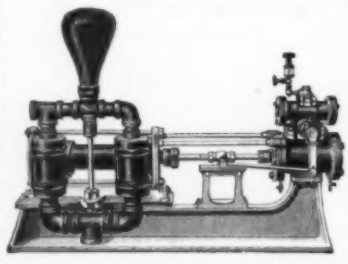
THE DAVOL NO. 60 SYRINGE.

THE illustration shows a new type of ulcer, ear, and urethral syringe lately patented by Charles J. Davol. As will be seen, the novelty consists in the little soft rubber guard that is molded upon the pipe. The syringe is made of a high grade of soft black rubber molded in one piece, and bears the impress of exceptional finish, as do all of the Davol goods. [The Davol Rubber Co., Providence, R. I.]

DAVOL NO. 60 SYRINGE.

HARD RUBBER ACID PUMP.

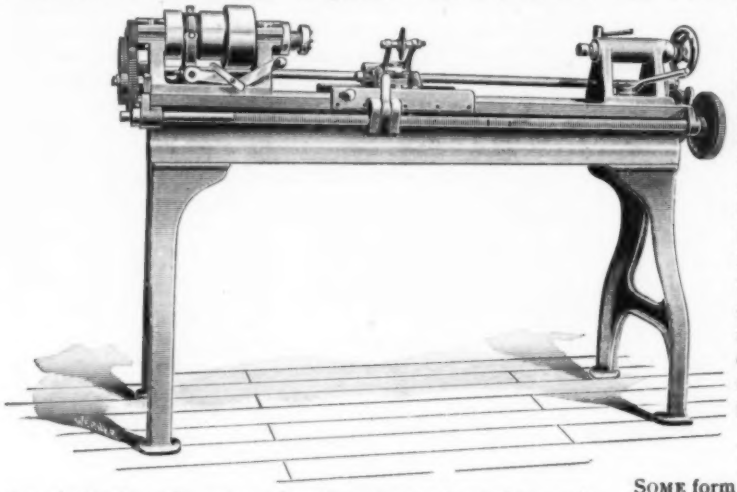
THE illustration of a pump shown herewith gives a good idea of the general appearance of an acid-pump made of hard rubber The pump is especially designed for conveying acids, chemicals, dyes, etc., or any volatile liquid, being constructed in such a manner that all parts which come in contact with the liquid are hard-rubber which, as is well known, is exempt from the action of acids. These parts are held by and mounted on iron, which takes the strains incident to the work performed; in a word, the rubber serves as a lining and complete protection against corrosion or other action on the metal. The pumps of this type are made in a variety of patterns. That shown in the engraving is provided with a steam cylinder; but they are made also to be operated by pulleys, by gearing, or by an electric motor. In each of the types the pump is mounted on a substantial iron bedplate and is complete in itself, ready to be placed on timbers and other foundation. These pumps were designed in the first place for chemical works; but, as will readily be seen, they find many applications in mines and mills. In copper and other



mines where acid waters have to be pumped which corrode iron and steel in a short time, and in mills where acid and other solutions are handled, their utility is apparent. The manufacturers design special pumps for unusual and exacting service, and will be glad to send full descriptive matter on request [American Hard Rubber Co., New York.]

AUTOMATIC FRUIT JAR RING MACHINE.

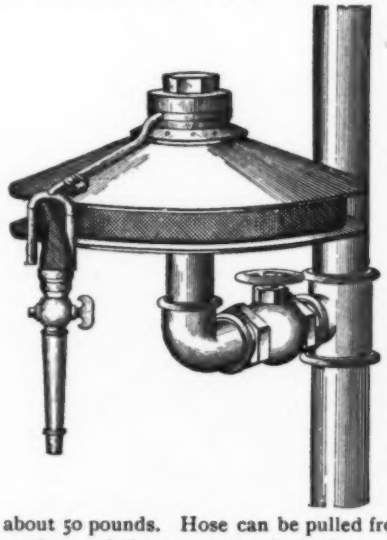
THE machine which is illustrated herewith is constructed with friction clutch and brake in spindle. Thus it starts and



stops instantly. The automatic stop stops both carriage and machine. The carriage moves continuously and not by jerks. All the wearing parts of the machine are self-adjusting. It is, on the whole, capable of great speed, is convenient to use, and possesses all the strength that can possibly be required in the performance of its work. It is furnished with circular and straight knives. [A. Adamson, Exchange and Water streets, Akron, Ohio.]

THE HOWARD HOSE REEL.

IN the construction of this reel the object has been to make it simple, light, and strong. The vertical pipe, which forms a part of the reel, is made of brass; the hub is made of brass or aluminum; the conical shaped plates between which the hose is wound are made of galvanized iron. The advantage is afforded of the hose always being connected, and only enough hose need be unreeled to reach the fire, as the water will pass freely through that portion remaining on the reel. The reel, with 50 feet of 2 inch cotton rubber lined hose, weighs about 50 pounds. Hose can be pulled from the reel in any direction, and the ease with which the reel operates is referred to particularly. It is impossible for water to stand in the hose when wound upon this reel, which removes a common cause of injury to hose on reels. This device is patented. [H. J. M. Howard, No. 915 E street, N. W., Washington, D. C.]



THE "MARVEL" NIPPLE.

A PATENT has recently been granted for this new idea in nipples—which apparently has many advantages over other kinds now on the market. The corrugations being first made on the inside, when the nipple is turned, and in its completed form the corrugations are on the outside, and, being under tension, or stretched, stiffen the mouth piece, preventing the nipple's collapse when in use. The inside of the nipple being perfectly smooth, secretions cannot accumulate, and it is readily cleansed. Nipples made with inside ribs, projections, or reinforcements are difficult to clean. Eugene Pearl, of No. 23 Union square, New York, is the patentee. He is also the inventor of the "Marvel Whirling Spray" syringe, the latest vaginal douche, which is having a very large sale; also the patentee of the Pearl corset shield; also Pearl corset fitting attachment, a device for trying on a corset in two minutes without lacing. Mr. Pearl makes a specialty of inventing and perfecting ideas for manufacturers of small wares.

THE HOGGSON POCKET TIME STAMP.

SOME form of time stamp long has been found desirable in offices and also for factory uses—as, for instance, in timing "heats" in the rubber mill. The device shown herewith is manufactured under a series of patents, the latest of which is dated July 4, 1899, and as now offered for sale is practically a new invention. It is intended to correctly date and time the receipt and delivery of goods, telegrams, and telephone messages; cancellation of revenue stamps, rentals of bicycles, boats, bowling alleys, etc.; employees' time, watchman's register, and general time and check system. Some of the advantages possessed by the Hoggson stamp are its portability, its size and weight, permitting its being carried in the pocket if desired. Its operation is by gentle pressure, thereby eliminating all pounding and abuse when using it; besides which it has no batteries, wires, or other connections to get out of order. It prints directly from rubber dies, in any colored ink desired—the same as ordinary rubber hand stamps—giving a clear and clean impression. It embraces a good timepiece, having a dial about the size of a gentleman's watch, resting upon a base composed of a rubber air cushion. The latter both adds to the clearness of the printed impression and protects the device against jarring in use. A wide variety of reading matter, in

addition to the date can be embraced in the dies. The height is 4½ inches and the weight 10 ounces. The price is only $12, which is much lower than that of any competing device. The patentees and manufacturers are S. H. Hoggson & Co., No. 27 Thames street, New York. The attention of the rubber trade is being attracted to this article by Robert B. Baird, No. 67 Chauncy street, Boston.

THE USE OF RUBBER IN HORSESHOEING.

THE demand for rubber in horseshoeing has been stimulated largely by the introduction of asphalt paving, on account of the slippery character of streets thus constructed. At the same time, owners of horses are beginning to realize what has long been plain to veterinarians, that the old methods of farriery too often have been inconsistent with a healthful condition of the horses' feet. Since the most valuable horse becomes useless if its feet are unsound, common prudence would suggest the economy of incurring the slight expense of rubbered shoes, but it has not been clear always what design to adopt. The use of rubber to prevent slipping has been referred to above, but this is not the most important consideration, nor yet is the use of rubber to lessen the concussion of the horse's tread on the pavement. The chief object of the steel shoe is to prevent the breaking of the hoof, but the disadvantage exists that the use of the full shoe holds the horse's heel in a rigid clamp and prevents that expansion of the frog which nature intends with every step taken by the animal. Veterinarians contend that a method of shoeing which tends to the disuse of the frog in time leads to the dwindling away of that organ and the loss of its important function in preserving the health of the foot and leg. There are several different so called rubber horseshoes, the base of which is a full shoe of steel, which contracts the heel, and affords only the advantages of preventing slipping and lessening concussion. On the other hand are offered various forms of rubber pads, to be applied with short steel shoes, the use of which covers two advantages: First, the heel not being contracted, the frog has an opportunity to expand with every step of the horse; and secondly, the frog exerts its natural pressure—though upon the rubber cushion, instead of upon the hard pavement. The cuts herewith illustrate various forms of pads manufactured by The Mooney Horseshoe Pad Co. (No. 18 Vesey street, New York.) Fig. 1 is the "Climax" bar pad, with leather base; Fig. 2, the same style, ventilated; Fig. 3, the "Kress" bar pad, with leather base; Fig. 4, the "Broadway" bar pad, all rubber; and Fig. 5, the "Kress" snow and icepad, all rubber. It is stated that the demand for ventilated pads comes chiefly from the country, whereas the city trade is almost wholly in the other kind. The manufacturers explain that sufficient access of air to the sole is permitted between the heel and the pad, while the use of tar and oakum on the inside of the pad helps to keep the foot in a sound condition. A fuller article on this subject will be found in THE INDIA RUBBER WORLD, March 10, 1895.

FIG. 1.

FIG. 2.

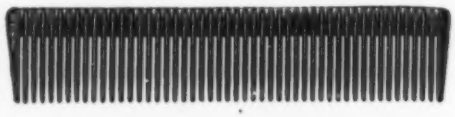
FIG. 3.

FIG. 4.

FIG. 5.

THE "PRINCESS" DRESSING COMB.

THIS comb embodies an entirely new idea from the fact that it is absolutely self cleaning, and by the unique formation of the teeth it is made particularly strong at the base, where the teeth usually break off. Another prominent feature of this novelty is the grooves running over the quill or back of the comb, thereby allowing the hair to run smoothly through the teeth and over the top of the comb without the least friction. These combs are especially adapted for ladies with long heavy tresses. They are made in the following sizes, and are patented: No. 6 Princess, 8 inches, all coarse teeth; No. 7 Princess, 9 inches, all coarse teeth; No. 5 Princess, 8 inches, coarse and fine teeth. Each comb is packed in a very attractive box. [American Hard Rubber Co., New York.]



NOVELTIES.

A CUSHION heel plate patented by J. R. Kirby, No. 211 Church street, Toronto, is made of steel and rubber, so combined as to prevent wearing of the heel in walking, while giving elasticity to the step, and likewise preventing noise in putting down the foot.

=While so many different rubber cushion heels for shoes are being brought out, G. E. Swan, M. D., of Beaver Dam, Wis., has reached the conclusion that a pad or cushion under the heel does not assist walking, while the uncertainty of poise or bearing caused by their use keeps the nervous system constantly on the alert, producing strain or weariness. He has patented a little yielding slug, of steel, to be inserted in the heel—about ¾ inch in diameter—which is claimed by him to give better results than rubber cushions.

TO REFORM BUSINESS CREDITS.

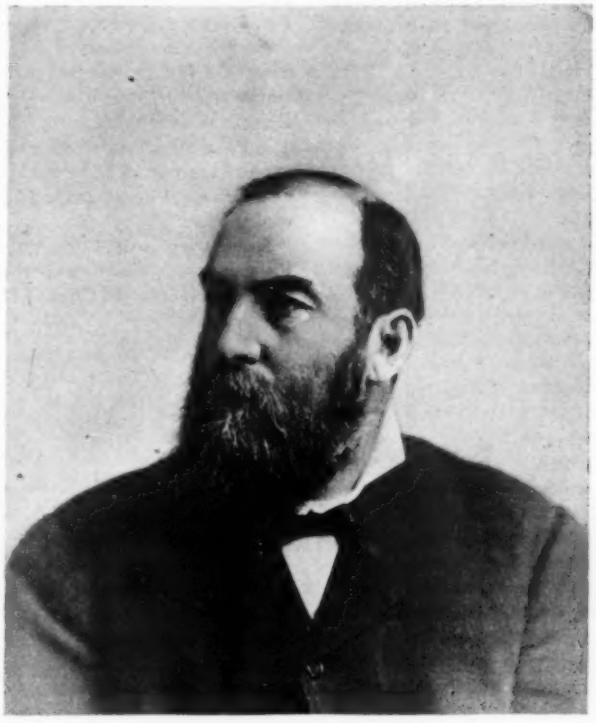
THE executive committee of the New York Credit Men's Association discussed at its last meeting the consideration of the subject of forming a subscription fund of $10,000 for the purposes of strengthening their investigation and prosecution committee. It was proposed that, with this fund in hand, fraudulent debtors will be prosecuted to the full extent of the law, will be prevented going through the bankruptcy courts, and that it will be a great machine for making dishonesty in business more difficult than it is at present. A committee has been appointed to take it into consideration and formulate the best plans possible for making this fund a powerful and successful weapon. The headquarters of the association are at No 320 Broadway, New York.

RUBBER NIPPLES FOR SUCKING PIGS.

RUBBER has been put to a novel use at the New York state agricultural experiment station, at Geneva. A valuable sow having become unable to suckle a litter of young pigs, a small tank was made which had a sufficient number of outlets at the bottom and six inches above the floor to allot one to each pig. A small tube of galvanized iron, covered with cork, was inserted in each of the outlets. An ordinary nursing bottle rubber nipple was attached to the outer end of each tube. One pig at a time was introduced to the improvised nurse, to which they all quickly became attached. It might pay a rubber manufacturer to take up this as a side line.

THE LATE GEORGE M. ALLERTON.

THE subject of this sketch was one of the pioneers of the rubber trade, and was instrumental in building up a company that has a reputation for good goods the world over—The Goodyear's India Rubber Glove Manufacturing Co. George M. Allerton started in life without any capital except his own energy and ability, his first business engagement being as a clerk in a drygoods store in New York. He stayed there but a short time when he became connected with the India Rubber Glove company, working in their little store on Fulton street. He soon had charge of their New York business, and in 1856 took the management of the company. At this time the capital of the company was small, and somewhat impaired. Under the Goodyear license, which then existed, the company made little else but gloves and dress shields. During the civil war, however, they engaged very largely in hospital and surgeons' supplies in rubber, manufacturing chiefly for army contractors in Philadelphia. At the close of the war most of this work stopped. It was then that Mr. Allerton's ability as a manager became most apparent, for he and his colleagues at once began to manufacture a general line of goods, which they were well able to do, as the Goodyear patents were no longer in force.



THE LATE GEORGE M. ALLERTON.

In 1867 Mr. Allerton moved to Naugatuck, the large business of the company seeming to require his residence there. His associate, Mr. John D. Vermeule, now president of the company, took the management of the New York end, which he handled with rare success. Mr. Allerton became at once a power in educational and social matters in the town of Naugatuck, and was foremost in all that made for the well being of the community.

He was a prominent mason, being a member of Clark Commandery, Knights Templar (Waterbury, Conn.), while Allerton Chapter, Royal Arch Masons (Naugatuck) was named for him. Personally, Mr. Allerton was an energetic, impulsive man, who made friends everywhere, and at the time of his death he was said to have had not an enemy in the world. He died when he was practically in his prime, being only fifty-one years of age. His impress upon the rubber business was such that today the great company of which he was successively treasurer, president, and vice president, is one of the largest and most prosperous in the country.

A single instance of Mr. Allerton's breadth of view may be taken from his connection with *The Rubber Era*.* He firmly believed that the rubber trade should have its official organ, and to that end he backed the publisher to the extent of thousands of dollars to help him establish the paper, and it was only the lack of knowledge both of newspaper publishing and the rubber business that prevented the *Era* from being a success, as there was no competition, and the field was already large enough to support such an enterprise.

Mr. Allerton was fully appreciated by his associates in the rubber business, and at a meeting held at the Grand Union Hotel (New York) two days after his death, the following resolutions were drafted:

"That we mourn the loss of our late president George M. Allerton, who died at his residence in Naugatuck, Conn., on December 2, 1882, as we would mourn the loss of a brother. In his position of president for many years he has shown unusual ability, and we are largely indebted to him for the continued success of this company. In his management and in all his intercourse with his associates, he has been uniformly kind and generous and considerate of the interests of all, the employees as well as the stockholders of the company. We tender to his bereaved family our heartfelt sympathy and sorrow for their irreparable loss, in this hour of their great affliction.

"*Voted*, that the secretary be directed to enter this vote upon the records of the company; and to present an engrossed copy of the same to the widow and family of the deceased."

The present general manager of the Seamless Rubber Co. (New Haven, Conn.), Mr. George M. Allerton, is a son of the subject of this sketch, and in his business and social traits he is exceedingly like his father. He worked for many years at the factory of the India Rubber Glove company, working up through all departments, until he became secretary of the company. When the sale of the Allerton interests to the United States Rubber Co. occurred, he became a director in that company, but afterward disposed of his stock, bought an interest in the Seamless Rubber Co., and has been its active head ever since. Under his intelligent and active efforts, the business has grown marvelously, until to-day the factory is one of the best equipped in existence. During his connection with this company, Mr. Allerton has also been actively engaged in the administration of the affairs of the Newton Rubber Works, and thus is a factor in the International Automobile and Ve-

*A sketch of *The Rubber Era* appeared in THE INDIA RUBBER WORLD of January 10, 1897.

hicle Tire Co., which recently purchased the factory named. He is also a member of the executive committee of The Druggists' Sundries Manufacturers' Association, and a potent factor in its success. There are many who predict for the son an even greater measure of success than his distinguished father enjoyed, and certainly if hard, intelligent, work, unquenchable enthusiasm, and liberal policy will secure such success, the prophets are right.

DEATH OF HENRY W. BURR.

HENRY W. BURR, who died July 26, at Newton Highlands, Mass., had long been known in the rubber business. He was born at Hartford, Conn., in 1829, being a son of the Henry Burr who organized the famous old Hayward Rubber Co. (Colchester, Conn.) and was its first treasurer. The son began his rubber career while yet in his teens, selling shoes made by this factory to the country stores. After serving in the civil war until discharged on account of

broken health, in 1863 he opened a rubber store at No. 37 Milk street, Boston, under the style of Henry W. Burr & Co. It was here that he first came in contact with Robert D. Evans, who for a while was a salesman for the firm. Later the store was sold to C. M. Clapp & Co., when the latter engaged in the rubber manufacture at Jamaica Plains, Mass. Mr. Burr then bought the Ætna Rubber Mill at Jamaica Plains and ran it for several years, selling out in 1869 to what had then become the firm of Clapp, Evans & Co. He was associated afterward with Mr. Evans in establishing the Eagle Rubber Co., at the same place, Mr. Burr working as superintendent. A letter to THE INDIA RUBBER WORLD from a member of Mr. Burr's family says: "While Mr. Evans owned very much the larger interest —perhaps three to one—they were more like ordinary partners in starting the company, and worked together harmoniously, each on his own end of the line, to make it a success. Later, Mr. George H. Hood came in to look after the business end while Mr. Evans was sick."

When the Eagle company became merged into the American Rubber Co., organized by Mr. Evans, Mr. Burr had charge of their plant at Cambridgeport until it was burned in 1881. He was the first superintendent of the Pará Rubber Shoe Co., and later went to Canada as superintendent for the Granby Rubber Co., remaining there for five years.

It was in the Ætna mill that the late Joseph Banigan began his wonderful career as a rubber man. While owner of the Ætna Mr. Burr afforded every facility to Joel Moulton to work out his invention of the Moulton wringer roll. When he had invented the wire wound core, Mr. Burr designed the "sleeve" which made the invention complete. In the suit of the Boston Belting Co. *v.* Clapp, Evans & Co., based on the allegation that the Moulton roll infringed patents owned by the plaintiffs, Mr. Burr was the principal witness for the defense, which won. As an expert in patent cases his services were afterward in some demand.

Mr. Burr was the inventor and patentee of the process of curing gossamer goods by electric light instead of solar light, but the process of curing them in heaters just then came into vogue and superseded it. He also invented the "Favorite" arctic overshoe, which was made and sold extensively by the Pará Rubber Shoe Co. He made minor inventions and improvements in all lines of goods he manufactured. One summary of his life points to the success of all the companies for which Mr. Burr ever worked: "The Ætna made money. The Eagle was a veritable mint. The American made big money. The Pará, according to sworn returns at the state house, always showed a profit while he superintended it. As for the Granby, he thoroughly organized the factory department and it is doing well to-day."

Since 1893 he had lived with his children in Newton and Framingham. The funeral took place July 29, from the residence of his son, Dr. Charles H. Burr.

OBITUARY NOTES.

JACOB BAIZ died June 20 at his residence in New York. He was a native of Venezuela, but had conducted an export and import trade in this city for more than twenty-five years, being a large receiver of Central American products, including India-rubber. It is reported that the firm will go into liquidation.

=Juan Aparicio, senior partner of J. Aparicio & Co., importers, New York, died June 12, aged 65. The firm were largely interested in coffee planting in Guatemala, of which country Mr. Aparicio was a native, and were importers of Central American rubber.

=The Shoe Manufacturers' and Jobbers' Association of Chicago, adopted resolutions of regret at the death of George Clapp, manager of the Goodyear Rubber Co.'s house in that city, and who was for many years actively connected with the rubber shoe trade in Chicago.

AIR BRAKES FOR STREET CARS.

THE state railway commission of New York has made arrangements for a test of air brakes for street surface railway cars. Twenty-two permits have recently been issued for this purpose, and the first series of tests was to be made on August 29-31, on cars of the Metropolitan Street Railway Co., in New York city. If the use of air brakes on street cars should become general, as no doubt they must in time, it would add largely to the demand for India-rubber for railway uses, both here and abroad.

A COMPLIMENT FROM ENGLAND.

THE managing director of The Sirdar Rubber Co., Limited (London), writes to THE INDIA RUBBER WORLD: "I get your journal regularly through our agents, and read it with the greatest of interest. It is undoubtedly the best journal of the kind I have ever seen."

RECENT TRADE PUBLICATIONS.

THE ADVERTISING BALLOON CO. (Broadheath Rubber Works, Altringham, England—Joseph Harris & Son, proprietors) issue an extensive catalogue illustrating and describing their extensive lines of rubber balloons for use in advertising and also toy balloons. These goods are made in great variety, many of the designs evincing no little ingenuity, besides which an element of grotesquesness is added through the medium of coloring. From the illustrations in this catalogue it is evident that the use of advertising balloons has reached a degree of development beyond the Atlantic that has not been approached in our own country. The same concern make rubber type for printing signs on balloons, and various articles of sporting goods in rubber and rubber for hospital and surgical uses. [8¾″ × 11⅛″. 12 pages.] Also, additional leaves of designs.

FELTEN & GUILLEAUME ("Carlswerke," Mulheim a/Rhine, Germany) issue an extensive catalogue of their products and manufactures, giving prominence to electrical wires and cables, in the insulation of which they make an extensive use of Gutta-percha and India-rubber. It is illustrated elaborately with views of various types of cables, and also of the work of laying underground and submarine cables, finished rope wire bridge work, etc. The book is printed in English and comes to us from W. F. Dennis & Co., the firm's sole agents for the United Kingdom, 23, Billiter street, London. [9⅝″×12¼″. 31 pages.]

THE INTERNATIONAL AUTOMOBILE AND VEHICLE TIRE CO. (No. 64 Federal street, Boston) have issued a 16 page booklet, in which not a word is wasted, and yet which contains a deal of valuable information, entitled "The Sectional Rubber Tire." The description of the tire, the simple method of attaching, the price list of sizes, the method of packing and shipping, and the special value of this type of tire are all handled briefly and convincingly, with the aid of illustrations. [6¼″ x 3⅜″.]

LAMKIN & FOSTER (Nos. 174–178 Congress street, Boston) publish in a form suited to the needs of their customers in the retail shoe trade a descriptive price list for 1899-1900 of the Goodyear Glove company's product, for which they are New England agents. List and net prices are given in parallel columns. [4⅛″ × 7¼″. 20 pages.]

WILLIAM MORSE & CO. (jobbers, No. 72 Reade street, New York) issue to the retail trade a very full catalogue of "American" and "Pará" rubber boots and shoes, with illustrations, net prices before and after November 1, and a telegraph code for the convenience of their customers in ordering. [3⅜″ × 6″. 58 pages.] Also, circulars describing their line of mackintoshes, with prices.

ALSO RECEIVED.

THE British and Foreign Oxolin Co., Limited, London.=Uses and Advantages of Oxolin, the Substitute for India-rubber. 2 p.

Manhattan Web Co., New York.=Hendrickson Exerciser Instructor. 14 p.

Forsyth Manufacturing Co., Buffalo, N. Y.=Bicycle Parts, Accessories, and Specialties. 32 p.

Morgan & Wright, Chicago=Instructions for Fitting Wheels with Morgan & Wright Solid Rubber Vehicle Tires. 12 p.

S. H. Hoggson & Co., New York=The Hoggson Pocket Time Stamp. 8 p.

The Mooney Horseshoe Pad Co., New York=Good Luck to the Owner; Good Feet for the Horse. 4 p.

The Manhattan Rubber Manufacturing Co., New York.=Special Catalogue of Vulcanized Rubber Emery Wheels. 15 p.

Joseph Dixon Crucible Co., Jersey City, N. J.=Dixon's Graphite Productions. 62 p.

SOME WANTS OF THE RUBBER TRADE.

INQUIRIES.

[49] FROM Paris, France: "I would be much obliged if you would let me know who in the United States makes a material called 'electrose.'"

[50] From a rubber factory in Holland: "Please give us address of makers of machinery for making cotton rubber lined hose."

[51] "Who are headquarters for palm oil in the United States?"

[52] "Who manufactures lasts for rubber shoes?"

[53] "Why would not corn flour do for dusting rubber coats instead of wheat flour? If it will do, where can I get it?"

[54] "Can you give me any information as to the whereabouts of the Mayall Rubber Co., who were in business a few years ago at Waltham, Mass? If they are not in existence, could you help me locate any of their former officers?"

[55] From Minneapolis: "Kindly give us names and addresses of responsible manufacturers of rubber footwear outside of the United States Rubber Co."

[56] From St. Louis: "Please give us names of several makers of good tires for vehicles."

[57] "I wish to purchase rubber waste made from the linings of old rubber boots and shoes. Do not wish it given the acid treatment or devulcanized, but delivered in the form of a coarse powder."

[58] A subscriber who purposes going into the rubber stamp trade wishes to know where he can buy the various articles needed in equipping a plant.

[59] From a mackintosh manufacturer: "Can you advise us where we can buy some Yankee spreaders, 40 or 60 inches wide?"

[60] "Could you please place us in communication with the parties who manufacture the soft rubber cigar holders?"

ANSWERS.

[33] George R. Meeker, broker in crude rubber, No. 150 Nassau street, New York, is prepared to supply orders for perchoid (oxolin), of foreign manufacture. None is yet produced here.

[43] George Borgfeldt & Co., West Fourth and Wooster streets, New York, write: "We are the sole importers and manufacturers' agents in the United States and Canada, for the red rubber toys made by the Hanover Rubber Co. (Hanover, Germany), exclusively."

PROTECTION OF RUBBER ON THE CONGO.

THE department of state at Washington has a report from Bellamy Storer, United States minister to Belgium, to the following effect:

The government of the Congo Free State, with the object of preventing the threatened destruction of the India-rubber trees in that country, has promulgated a decree providing that for every ton of rubber yielded annually there shall be planted not less than 150 rubber vines or trees. A bureau of control of rubber forests is created and is charged with the enforcement of the decree of 1892, which prohibits gathering rubber by any other mode than through incisions in the bark. Infractions of the new decree (which bears date of January 5, 1899) are punishable by fine up to 10,000 francs or imprisonment. Employers and directors of corporations are held personally responsible for the acts of their subordinates. Guide books for the cultivation of rubber are furnished by the district commissioners on request, and agricultural inspectors will be placed temporarily at the service of private owners.

THE COMING OF THE AUTOMOBILE.

THE dry goods firm of Abraham & Straus have been the first to employ automobiles as delivery wagons in Brooklyn, N. Y., having put several into use, beginning on August 2. The new vehicles make a handsome appearance, have a carrying capacity of 1200 pounds, are electrically driven, and capable of a speed of ten miles per hour. They are equipped with solid rubber tires. Several firms in New York city have also purchased one or more automobiles each for delivery purposes, all with satisfactory results. It has been more than a year since the use of such vehicles on a practical scale was begun in Chicago, and everywhere the opinion appears to prevail that the days of the horse delivery wagons are numbered. One fact alone seems to delay the ordering of automobiles to take their place—the large amount of money invested in the old type of vehicle and the small amount that could be realized by their sale. The New York dry goods firm of B. Altman & Co. not long ago purchased a complete new outfit of delivery wagons, rubber tired and handsomer in appearance than the wagons of any firm in town. Naturally they hesitate to sacrifice these vehicles altogether, but they have invested in one automobile delivery wagon and it is likely that others will be purchased as fast as the horse drawn vehicles begin to wear out. The automatic vehicles can make two trips to one of the old style wagon, and at a great economy in cost, while the withdrawal of horses will relieve the congestion of street traffic and aid in keeping the streets clean, and the use of rubber will lessen the noise.

Referring to a report, after the above had been put in type, that Abraham & Straus had withdrawn their automobiles, that firm write to THE INDIA RUBBER WORLD: "We are still experimenting with the automobile delivery wagon. We have not discontinued their use, although we find the cobblestone pavements cause considerable bother. The builders of the wagons, however, feel assured that they can produce a wagon that will overcome this difficulty."

* * *

THE Humber bicycle plant at Westboro, Mass.—managed some time by Elliott Burriss, who is remembered in the rubber trade—has been purchased by the Locomobile Co. of America and will be enlarged. The Locomobile company, mentioned in the last INDIA RUBBER WORLD, appear to be entering the horseless carriage field in a very substantial way.

* * *

IT was announced recently that a contest for puncture proof pneumatic vehicle tires had been organized by a Paris daily newspaper, *La Presse*, 12 rue de Croissant. The contest was to include a run over six miles of road strewn with sharp things and a technical and practical examination by experts to consider the qualities of resiliency, speed, weight, and durability.

TO PLANT RUBBER IN MEXICO.

THE Los Soldados Rubber Co. [mentioned lately in THE INDIA RUBBER WORLD] have been incorporated, with $200,000 capital (gold), for the purpose of cultivating rubber and other products on a tract of land on the isthmus of Tehuantepec, in the state of Vera Cruz, county of Minatitlan, twenty miles a little south of east of Coatzacoalcos, on the Tancochapa river, which is the eastern boundary of the tract. There are 6800 acres, which the present owners, The Lewis Co. (New York and Mexico), agree to sell to the rubber company for stock in the latter. Individual stockholders in The Lewis Co. have subscribed for further shares in the rubber company, for cash. The management will be in the hands of M. H. Vater, who for many years has filled the position of cashier for The Lewis Co., who are in the metal trade. Mr. Vater's salary will be paid in part in shares of the rubber company. THE INDIA RUBBER WORLD is advised that the purpose of the new company is to cultivate rubber, and not to speculate in real estate; also, that the company is composed largely of personal friends, and that nearly the whole of the capital stock has been subscribed.

In a letter to THE INDIA RUBBER WORLD Mr. R. P. Probasco, of Chicago, writes: "I have formed a favorable opinion of the territory drained by the Tancochapa river, which empties into the gulf of Mexico about twenty-one miles south of Coatzacoalcos. It seems to possess ideal conditions for the cultivation of *Castilloa elastica*, which tree is there found in considerable numbers and large size."

J. Arce y Cia., primera calle de San Francisco No. 1, Mexico city, are offering for sale the hacienda de Santa Margarita, on the river Tonto, near Tuxtepec, state of Oaxaca, including, besides coffee and outfit for handling the same, "about 4000 to 5000 India-rubber trees in actual production, and 15,000 to 20,000 big and small India-rubber trees."

Joseph B. Toplitz, secretary of The Tapachula Rubber Plantation Co., of San Francisco [mentioned in the last INDIA RUBBER WORLD], writes under date of August 16 that the company will go out of existence, the Mexican property which they purposed buying not having proved, on investigation by their agent, to be as represented by the vendors.

THE BASIS OF RUBBER COAGULATION.

WRITING of methods of coagulation of India-rubber, in *The Tropical Agriculturist* (Colombo), Mr. J. H. Hart, F. L. S., director of the Trinidad botanic garden, pays his respects to Mr. R. H. Biffen and his centrifugal method of separating caoutchouc from the *latex* of the rubber tree. Director Hart writes: "There is a point which I would commend to Mr. Biffen's attention, and this is the special character of the rubber globules of the *Castilloa*. Perhaps if he examines them he may find the cause of the rupture which is evidently the real cause of coagulation. This rupture can be caused in various ways, and he who succeeds in causing it in the simplest and most economical way will have solved the question of the preparation of *Castilloa* rubber, be it by a physical or non-physical process."

NEW WESTERN UNION CABLE TO CUBA.

THE cable steamer *Dacia*, of the India-Rubber, Gutta-Percha, and Telegraph Works Co. (London), arrived lately at Key West, Fla., with a cable that is to be laid for the International Ocean Telegraph Co., operated by the Western Union Telegraph Co., between Florida and Cuba. This cable is to take the place of a defective cable that will be taken up. The present cables north of Key West land at Punta Rassa, on the Gulf coast. The new cable, which is a tri-core conductor north of Key West, will be laid on the eastern coast of Florida to Miami. The section between Key West and Havana is a single conductor cable.

THE members of the police force of Oakland, Cal., are equipped with rubber gloves, for their protection in handling live electric wires that fall in the streets. The police of Poughkeepsie, N. Y., wear rubber heels, and report that they have been more successful in catching criminals in consequence of the noiselessness of shoes thus equipped.

NEWS OF THE RUBBER TRADE.

THE NEW SHOE FACTORY AT CONCORD JUNCTION.

AS already announced, the new rubber shoe factory at Concord Junction, Mass., is being rapidly put into shape for operation. The company, incorporated recently as the Concord Rubber Co., purchased the entire plant of the Damondale Co., comprising five acres of land situated on both sides of the Assabet river, which furnishes a fine water power. The main mill building is a six story brick structure, 180×50 feet, trimmed with granite, and built throughout in the most substantial manner. Clustered around this are storehouses, machine and carpenter shops, tenement houses, etc. It is said more than $400,000 were spent on the equipment of this plant while in the possession of the former owners. The plant lends itself very readily to the wants of rubber shoe manufacture. The lower floor will be devoted to the grinding and calender room, the power being transmitted directly either from the water wheels, lathes, drills, etc., all run by water power, and the carpenter shop, fitted with very complete working machinery. The work of installation is being done under the direction of General Superintendent Thomas J. Sheehan, lately of Malden, Mass., who is well known as an experienced and capable rubber shoe superintendent. He has for an assistant Mr. E. C. Garvin, who has also had a valuable experience both in shoes and mechanical goods. The officers of the company are: W. D. Brackett, of W. D. Brackett & Co., shoe manufacturers, Boston, president; J. H. Ailman, of Ailman & Sons, wholesale dealers in opticians' supplies, Boston, vice president; Dana B. Paul, Boston, treasurer; John F. Wheeler, of the United Rubber Co., Boston, selling agent. The board of directors embrace the names already given together with John F. Winch, Thomas J. Sheehan, Hayes Lougee, and John G. Robinson. The company expect to make fine goods in firsts and seconds. A capacity of 12,000 pairs per day is spoken of, and it is reported that the leading stockholders, who are interested in the leather shoe trade, will be able to handle the product of the factory.

or from the engine. The wheels are turbines made by The Hunt Co. (Orange, Mass.), and by the Holyoke Machine Co. (Holyoke, Mass.) The water power is said to be 300 horse. The engine, to be used in case of failure of water supply, is a 250 horse Wheelock. There are also two boilers of 220 horse power, and two more are to be installed. The building will be lighted throughout by electricity, a 600 light dynamo being now installed, which will run by water power. Next to the grinding room is a room with a cement floor which will be used as a wash room, two washers being installed. The rest of the mill equipment will consist of nine grinders and three calenders, all of Birmingham make. The remainder of the floor space on the ground floor will be devoted to a compound room and store room for compounding materials. The floor above will be devoted to a cutting room, while the next floor will be a packing room. The two floors above this will be making-up rooms for shoes, on one of which will be two large heaters, while the third floor will also have two large heaters, and a part of it will also be used in making up the goods. The work of installation is rapidly being pushed, and the company hope to be manufacturing by the 1st of September. A very valuable adjunct to the plant is the machine shop fitted with planers,

THE MODEL RUBBER CO.

THE incorporators of the new rubber shoe company at Woonsocket, R. I., at a meeting held on August 10, elected as directors: George R. Smith, Frank E. Farnum, Patrick J. Wren, Frederick Hadfield, and Francis J. Flynn. The directors then elected George R. Smith president, Francis J. Flynn secretary, and Frank E. Farnum treasurer. Work on the building is being pushed, and most of the machinery has been received. A 250 horse power Corliss engine will be used. Mr. Patrick J. Wren, who will be general manager, informed THE INDIA RUBBER WORLD lately that the company hoped to be making rubber shoes by November. They will make first quality goods and will have a capacity of 5000 pairs a day. George R. Smith is an energetic young man, manager of the R. P. Smith & Son insurance firm, in Woonsocket. Treasurer Farnam is the cashier of the Globe National Bank. The other officers have been mentioned already in this paper.

THE ALDEN RUBBER CO. ORGANIZED.

THE incorporators of the Alden Rubber Co. met at Akron, Ohio, on July 25, to complete their organization. The whole of the capital stock ($100,000) was subscribed and the following officers were elected; I. C. Alden, president and treasurer; E. L. Toy, vice president; Wilmer Dunbar, general superintendent and secretary; and George C. Kohler, general counsel. The directorate includes also E. L. Alden. The company have acquired a desirable manufacturing plant on a tract of 34 acres, at Barberton, a thriving suburb of Akron, and purchased a modern equipment of rubber machinery. I. C. Alden was at one time secretary of the Diamond Match Co., later secretary, and now president, of the Whitman & Barnes Manufacturing Co. (Akron, Ohio.) Mr. Toy, originally a railroad man, has been identified with the rubber trade for several years as man-

ager of more than one successful company. Mr. Dunbar has spent his life in practical experience in every branch of mechanical rubber work, and brings to the new company not only enthusiastic devotion to this line of business, but a high degree of practical expert skill. Mr. Kohler is a member of one of the best legal firms in Ohio. The Alden Rubber Co. would thus seem to have secured at the outset the principal factors essential to success. They have unsurpassed transportation facilities, and, what is especially important in the rubber industry, they have an unfailing supply of pure spring water adequate for all possible requirements.

THE "UNITED AND GLOBE" COMPANIES.

THE deed for the transfer of the Globe Rubber Works to the United Rubber Co. has been placed on record at Trenton, N. J., the United and Globe Rubber Manufacturing Cos. of Trenton having been incorporated on July 25. The capacity of the new concern, it is stated, will be $1,000,000 worth of goods per year. The officers are W. H. Linburg, president; Welling C. Sickel, vice-president; A. C. Oliphant, treasurer; John S. Broughton, secretary; and Charles Joslin, superintendent. The business of the company will be largely in rubber supplies for railway and mining use.

CHICAGO ELECTRIC HOSE CO.

HENRY B. COBB, inventor of the "Chicago electric hose," and patentee of the machines especially designed for its manufacture, has purchased from William Weightman, of Philadelphia, the entire capital stock of the Chicago Electric Wire Co. (Wilmington, Del.), by which he becomes owner of the factory, buildings, real estate, and stock on hand. A new company, the Chicago Electric Hose Co., has been incorporated in Delaware with $500,000 capital, to continue the business, with the idea of adding $50,000 worth of new machinery and increasing the capacity of the factory to 20,000 feet of rubber hose per day. The hose to be manufactured for the season of 1900 will be put upon reels, in continuous lengths of 500 to 600 feet, and tested to stand a hydraulic pressure of 1000 pounds per square inch before bursting. Mr. Cobb's son, Harry Z. Cobb, who has invented important improvements both in the machinery used and in the methods of manufacture of this hose, will be general superintendent of the new company. The product of the factory up to date is garden hose, ¾ inch in diameter.

CONSOLIDATED RUBBER TIRE CO.

THE directors at a meeting at Trenton, N. J., on August 8 declared a quarterly dividend of 1¼ per cent. on the preferred stock, payable September to stockholders of record on August 19, checks to be mailed. The authorized capital is $10,000,000, divided equally between preferred and common shares. The shares issued to date amount to $4,000,000 of each class. The directors of the company now are James E. Hays, lawyer and counsel for the company; Isaac L. Rice, president of the Electric Vehicle Co.; Martin Maloney, also of the Electric Vehicle Co.; William L. Elkins, Jr., president of the Pennsylvania Iron Works; Emerson McMillin, banker; Edwin S. Kelly, late president of the Rubber Tire Wheel Co.; Walstein F. Douthirt, Stephen Peabody, and Samuel W. Ehrich. The officers are: Emerson McMillin, president; Edwin S. Kelly, vice-president and general manager; William L. Elkins, Jr., treasurer; Frederick A. Seaman, secretary and assistant treasurer. The company have lately equipped sixteen pieces of apparatus, including engines, for the Pittsburgh fire department, with their tires. Mr. J. W. Perry, manager of the Paris office of the company, which is headquarters for their business in continental Europe, was a recent visitor to New York, calling at THE INDIA RUBBER WORLD offices.

LATTA & MULCONROY (PHILADELPHIA).

THIS enterprising rubber firm have moved from No. 1217 Market street, into the adjoining double stores, Nos. 1213–1215 Market street, and running through to Nos. 1214–1216 Commerce street. The building is a new one, of iron and stone, six stories in height, and fitted with all modern conveniences, such as steam heat, electric light, freight and passenger elevators, etc. The firm mentioned will occupy the two lower floors, thus securing over 12,000 feet of floor space. The whole is fitted with new and elegant fittings for store, office, and reception room, and, the ceilings being extra high, there is sufficient room for galleries if their business continues to grow as it has in the last twelve years. The proprietors frankly own their ambition to have the handsomest as well as the largest rubber goods store in Philadelphia.

RUBBER STOCK DISPUTE ENDED.

IN the United States circuit court at Hartford, Conn., on August 16 Judge Townsend filed an opinion in the case of The New York Commercial Co. *v.* Henry H. Francis, James T. Farrell, and Joseph P. Earle. The action related to the possession of 76 shares of stock of the Seamless Rubber Co. (New Haven) and arose from an attachment of the stock owned by Joseph P. Earle by Francis, in judgment granted him in a suit in which Earle was mulcted in $12,200. When Deputy Marshal James T. Farrell undertook to levy upon the stock in execution of the judgment, the New York Commercial Co. intervened and asked for an injunction preventing the levy, claiming that the stock was part of the assets of Earle Brothers, of which Joseph P. Earle was one, and that the New York Commercial company had levied upon the shares already in a suit for debt. The injunction was granted and sustained by the court of appeals and the case came back for a hearing upon its merits. The opinion of the court is that the stock rightfully belongs to Earle Brothers.

ADMIRAL DEWEY AND A RUBBER FACTORY.

THE Wales-Goodyear announcement, which occupies a full page in this issue, is certainly extremely timely, referring as it does to Admiral Dewey, and giving a very fine portrait of him. It is also full of good logic, as it is undoubtedly true that the reason the admiral won his great battle so easily was because he and all the men under him knew their work perfectly. There were no green hands aboard the *Olympia*, or any of the other American ships. And it is the same way with the Wales-Goodyear company; their great success is undoubtedly owing to the fact that from the office to the grinding room all of their people know their work perfectly. The Wales-Goodyear company have been in continuous and successful existence for fifty-seven years. Many of the operators have had a quarter of a century of practice in their particular line; and running a rubber factory is just like fighting a naval battle—it is practice that insures success.

WOONSOCKET FACTORIES BUSY.

THIS season has developed the greatest demand for "Woonsocket" and "Rhode Island" specialties that has been known in the history of those brands. The "Rhode Island" brand, always popular, has been unusually so this year, doubtless because of the addition of several special lines which are made exclusively in this brand. Several new lasts have been added, particularly in women's wear. Their women's light arctic, in the "British toe," has been received in the trade with much favor. These goods are made by the famous "Alice" mill of the Woonsocket Rubber Co. The demand for "Woonsocket" boots has also been very large. Beginning August 14, the bootmakers in the company's Millville factory started making

twenty pairs each per day—the largest "ticket" they have had for years.

RUBBER SHOE JOBBING TRADE IN BALTIMORE.

A CALL was recently sent out by the Linthicum Rubber Co., of Baltimore, to all the jobbers of rubber footwear in that city, whether exclusive rubber houses or leather shoe jobbers, for the organization of a rubber shoe jobbers' association such as have proved successful in other parts of the country, with the idea of inviting the jobbers of surrounding cities to join them. So few responses were received that the idea has been dropped. There are twenty-seven jobbers of rubbers in Baltimore, but a number of them are reported to be selling very few rubbers compared to what they once sold, while some others sell more "job" goods than regular goods. It is understood that the conditions there, with regard to a failure to maintain manufacturers' contract prices, point strongly to the need for such a jobbers' association as has been proposed.

TO MAKE "PERCHOID" IN AMERICA.

A RECENT letter from The British and Foreign Oxolin Co., Limited (London), to THE INDIA RUBBER WORLD announced the sale to a syndicate in this country of the American rights to manufacture and sell the product covered by their patents. This material has been described in THE INDIA RUBBER WORLD as "perchoid," by the Very Rev. Dean Hart, of Denver, Col., who was actively interested in its first development. It is understood that the new syndicate referred to are planning to begin, in a practical way, the exploitation of "perchoid" as a substitute for rubber, for which purpose a factory will be started near the Atlantic seaboard. In addition to the English factory, at Mitcham, Surrey, there is one in Germany—the Oxylinwerke-Actiengesellschaft, at Leipsic.

GROWTH OF AN ENGLISH CABLE WORKS.

THE W. T. Henley's Telegraph Works Co., Limited (London), have divided their £10 shares into two fully paid shares of £5 each, and arranged for the increase of their capital from £180,000 to £300,000 by the creation of new £5 shares. There were 3000 preference shares of £10, standing at £25 and upward Under the new arrangement there will be 30,000 shares each of preferred and common stock. The company's profits were £20,000 in 1896, £24,000 in 1897, and £28,000 in 1898, and a much larger figure is anticipated for 1899. The great demand for cables and wires for telegraph, electric lighting, and power purposes, together with the Pacific cable project, are mentioned as making necessary an increase of capital. The company have been making large purchases of copper and Guttapercha in anticipation of future needs. Interim dividends have been declared, payable September 1, at the rate of 7 per cent. on preferred and 8 per cent. on ordinary shares.

PROFITS OF A DUNLOP TIRE COMPANY.

THE Rubber Tyre Manufacturing Co., Limited—organized by the English Dunlop interests for the purpose of manufacturing their own tires, for which purpose they acquired the factory of The Byrne Brothers India Rubber Co., Limited, at Birmingham [see THE INDIA RUBBER WORLD, March 1, 1899]—report profits for the year ending June 30 of £26,456 2*s*. 3*d*. They have paid a 5 per cent. dividend on the capital stock issued (£120,002 in £1 shares), written off liberal sums for depreciation, and added £10,000 to their reserve fund.

NEW INCORPORATIONS.

CHIAPAS Rubber Plantation and Investment Co. (San Francisco) July 7, under California laws, to cultivate rubber trees; capital, $100,000. Incorporators: L. S. Sherman, L. H. Bonestell and others, San Francisco; G. S. Montgomery, Oakland; E. A. Girvin, Berkeley; G. A. Weslenberg, Santa Barbara, Cal.

=The Superior Manufacturing Co., under Maine laws, August 5, to manufacture waterproof goods and awnings; capital, $150,000. Incorporators: R. E. Jeffrey (president), Boston; Edgar L. Turner (treasurer), Everett, Mass.; and George E. Westcott, Cambridge, Mass.

=The Preston Hose and Tire Co., under Maine laws, August 7, to manufacture hose and rubber tires; capital, $100,000. J. F. Preston, of Boston, is president, and W. C. G. Carney, of Portland, Me., treasurer.

=The Goodyear Tire and Rubber Co. (Akron, Ohio), with $200,000 capital, have been licensed to do business in Illinois, with a capital invested in that state of $2500.

=The New York Tire Co., July 31, under New York laws, to make and sell cycle and vehicle tires; capital, $1000. Directors: Ernest J. Euckrat, George E. Woodworth, and W. B. Parker, Brooklyn.

=The N. A. Clark Manufacturing Supply Co., July 17, under Maine laws; capital, $100,000, with nothing paid in. To deal in paper stock, metals, old rubber, and bottles. President and treasurer: N. A. Clark, Brockton, Mass.

=American Rubber Horseshoe Co., August 16, under New Jersey laws; capital $100,000; to manufacture rubber horseshoes. Incorporators: Felix Galley and A. H. Rondebush, Buffalo, N. Y.; Horace G. C. Thornton, Cranford, N. J. Principal office: No. 1 Montgomery street, Jersey City, N. J.

=The Boston Tape and Rubber Co., July 16, under Maine laws; capital, $10,000; to make and deal in rubber goods. E. H. Lounsbury, president; H. V. Dimmick, treasurer—both of Woburn, Mass.

=Dunlop Pneumatic Tyre Co. (Continental), Limited, registered in London; capital, £50,000. To acquire the Dunlop Pneumatic Tyre Co., Limited, in Italy, Denmark, Belgium, Russia, and Holland. Managing director: Arthur P. Du Cros,

=Cotterell Tyre Co., Limited, registered in London; capital, £100,000. To acquire the pneumatic tire patents of James Cotterell and to manufacture tires and vehicles.

=Adair Pneumatic Tyre Syndicate, Limited, registered in Dublin; capital, £12,000. To acquire from the Leinster Contract Corporation, Limited, the patent rights agreed to be purchased by it from John Adair, and to manufacture tires for bicycles and vehicles.

TRADE NEWS NOTES.

THE fire doors in the new building put up by the Seamless Rubber Co. (New Haven), are worthy of more than passing attention. They are made of wood, covered with tin, and, instead of being hinged, slide on a slightly inclined track. A carefully adjusted counterweight holds the door in any position in which it may be left under normal conditions. In case of fire, however, the soft metal link holding the counterweight melts, the weight drops, and the door is released, when it slides into position, effectually closing the doorway.

=The Standard Underground Cable Co. (Pittsburgh, Pa.), in response to an inquiry, advise THE INDIA RUBBER WORLD that they are not ready at this time to give any information regarding a report that they propose building a branch factory somewhere in New Jersey.

= The Celluloid Co. (Newark, N. J.) have begun work on several new buildings, with a view to doubling the capacity of their plant. The works are reported to have been run until a late hour every night for months past.

= The Grieb Rubber Co. (Trenton, N. J.) began operations early in August in their new factory. The building is 100 × 160 feet, two stories, and covered with corrugated galvanized iron. The company will manufacture rubber heels, soles, cement, etc., for the shoe trade.

=The Day Rubber Co. (St. Louis) have had so large a trade in rubber shoes this season that they have been obliged to take on the building adjoining, No. 417 North Fourth street.

=The Beacon Falls Rubber Shoe Co. (Beacon Falls, Conn.) are making an addition to their factory, mainly for storage purposes, 50×75 feet, four stories and basement.

=The Millville factory of the Woonsocket Rubber Co. was reported recently to have changed the opening hour from 7 to 6 A. M., and to be working overtime in the evening.

=Some of the arctic makers in the "Alice" mill of the Woonsocket Rubber Co. are reported to have become organized in a branch of the Socialist Trade and Labor Alliance. There is talk of their trying to have abolished the "team" system, which seems to have succeeded, to some extent, the "combination" system of work, referred to in the last INDIA RUBBER WORLD.

=The Birmingham Carriage Works (Birmingham, Ala.) have secured the exclusive agency, for their section, for the Morgan & Wright solid rubber vehicle tire, which was described in THE INDIA RUBBER WORLD January 1, 1899.

=The golden jubilee of the founding of the firm of Eberhard Faber, lead pencil manufacturers, was celebrated on August 12 by the 100 employés at No. 545 Pearl street, New York, and 400 at Greenpoint. They presented to John Faber, the surviving partner and head of the concern in America, an engrossed set of resolutions.

=The late Joseph Stokes, president of the Home Rubber Co. (Trenton, N. J.), left a comfortable fortune, estimated at $300,000 or $400,000, which by his will is to be divided equally among his six children. The executors are W. J. B. Stokes, Joseph O. Stokes, and C. A. Daniels, the latter being a son-in-law and connected with the Quaker City Rubber Co. (Philadelphia.)

=John F. Ives, who has done much effective work in the tire field, both as an inventor of pneumatic tires and as a marketer of them, has taken charge of the International Automobile and Vehicle Tire Co.'s interests in the central West, with headquarters at No. 102 Superior street, Cleveland, Ohio. Mr. Ives reports that the "Sectional" tire is having a great run in that region.

=The Litho-Carbon Rubber Co., incorporated in West Virginia with $5,000,000 nominal capital, to develop certain asphalt deposits in Uvalde county, Texas, and which failed in 1897, have been succeeded by the Uvalde Asphalt Paving Co. The president of the latter is Ralph T. Rokeby, of New York, who was the assignee of the Litho-Carbon company. They have obrained some contracts lately in New York.

=The Insoloid Co. (Denver, Col.) are sending out a very taking postal card written in a fine feminine hand, full of just the sort of gossip that one woman writes to another, and incidentally attributing her husband's success in business to the use of the "Insoloid" fuse. This card sent to the stenographer in each office, and signed "Mary," is sure to go the rounds, and is really a good bit of advertising.

=John Royle & Sons (Paterson, N. J.), who make so many tubing machines for the rubber trade, have just purchased a Hazleton boiler, no doubt learning of its usefulness through some of the many rubber concerns that have installed them.

=The office employés of the Hood Rubber Co. recently enjoyed a day's outing, arranged by Mr. George H. Hood, which ended with a dinner at the delightful summer home of the latter, at Manchester-by-the-Sea.

=Robert B. Baird, during his visits to the New England trade in the interests of Loewenthal & Morganstern, has been accompanied by S. P. Gifford, who, as a practical man, is helpful in giving points as to the various uses of reclaimed rubber.

=R. Hafleigh & Co. (Philadelphia) are doing a large business in hard rubber buttons, of which they have sold and delivered more than 12,000 gross in the last six months. They have lately enlarged their works, and are now in a position to furnish anything desired by the trade in the line of small pressed hard rubber work.

=Mr. John P. Lyons, the genius who presides over the publicity department of the United States Rubber Co., has been accorded larger quarters on the floor above the executive offices on Murray street. He now has an ample store room for electros, catalogues, and advertising materials, and in addition a light, airy office, the walls of which are so covered with his advertising designs that it has quite the appearance of an artist's studio.

=S. M. Evans, who handles the product of The Picher Lead Co., is now on a trip among the Eastern rubber mills.

=Harry B. Hall, salesman for The International Automobile and Vehicle Tire Co., has just returned from a trip to Mexico.

=The second annual picnic of employés of The Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, was participated in by about 400 persons and proved a great success. The total expense, including special trains and the prizes awarded in the athletic contests, was borne by the company.

=The Coloniale Caoutchouc Société Anonyme, of Brussels, have opened a branch at Cologne-Ehrenfeld, Germany. The object is trading in India-rubber and Gutta-percha, the manufacture of goods wholly or in part of these materials, and the exploiting of certain patents in Belgium, France, and Germany. Also, to make bicycles, automobiles, and other vehicles, or parts of the same. The capital is 2,500,000 francs (=2,000,000 marks), divided into 25,000 shares.

=Dr. Carl Metzeler, until now technical manager of the Royal Bavarian Court Rubber Factory, Metzeler & Co. (Munich), has entered that firm as an active partner.

=Several rubber firms have availed themselves recently of the privilege afforded under the law creating the testing department of the Watertown arsenal, in Massachusetts, of having tests of materials made without charge. Such tests have covered rubber belting, cotton belting, air brake hose, bicycle tires, and tire fabrics. The testing department is in charge of J. E. Howard, C. E., Watertown, Mass.

=The Cable Rubber Co. (Jamaica Plain, Mass.) are largely increasing their heater capacity and are also planning an addition to their mechanical equipment.

=An Akron (Ohio), newspaper despatch refers to the boom in the rubber industry there this year as having been most extraordinary, giving the ten concerns at work there all they can do. "The close of the year will see the aggregate capital invested in rubber manufacturing here increased from $3,200,000 to almost $5,000,000."

=Gray Staunton, who is located in Chicago developing a new material which is to be used in connection with rubber, was a recent visitor to Boston and New York to purchase machinery for his development plant.

=Regarding the Bolivia Rubber Co., which we lately reported as having been incorporated in Baltimore, with $100,000 capital, "to manufacture rubber goods," a correspondent in that city writes: "My impression is that the whole thing is only a name. Frank E. Crew is in the city directory as a 'secretary'; William H. Clowney as a 'collector'; John W. Beebe, no occupation."

=The town of Colchester, Conn., in view of negotiations for the sale of the old Colchester Rubber Co. plant for use in some other branch of industry, has voted to abate the taxes on the property.

=A sheet of half tone portraits of the officers and staff of the Fabric Fire Hose Co. (New York)—sixteen in number—was published as a supplement to *Fire and Water* for August 19.

=Mr. A. L. Kelley, treasurer of the Mechanical Fabric Co. (Providence, R. I.), is back from Europe, having arrived on the *Etruria* on August 26.

= August Schember, who was engaged formerly in the boot and shoe trade at Terre Haute, Ind., has made a change, opening a store in the Y. M. C. A. building, under the style of the Terre Haute Rubber Co. He will handle some leather goods, but rubber will come in for the larger share.

= The Manufactured Rubber Co. (Philadelphia) are reported to have acquired a French patent covering the manufacture of a rubber automobile tire, from which they expect great things.

= The La Crosse Rubber Mills Co. (La Crosse, Wis.) recently gave their employés a day's outing, for which the company assumed all the expense, including the cost of the music, seventy prizes distributed to contestants in games, etc.

=An unrevised statement of the value of India-rubber manufactures imported into Canada for the fiscal year ended June 30, 1899, places the amount at $462,520, against $396,522 in the preceding year. The value of imports of crude India-rubber was $1,706,933, against $1,534,197 in the year previous.

="Sulo" is the name of one of the most promising—as far as looks go—cheap artificial rubbers that have yet been brought into the office of THE INDIA RUBBER WORLD. It is worth the while of any rubber manufacturer to send for a sample.

INDIVIDUAL MENTION.

THE young men in the Boston Rubber Shoe Co. have a good representation at South Framingham, Mass., where is now being held the annual inspection of the state troops. Those in attendance are Colonel Harry E. Converse, Colonel Frank L. Locke, and Major Ballard.

=The recent visit to Europe of Mr. Charles L. Johnson, of the United States Rubber Co., was made without any intimation in advance—unless to his most intimate friends—of the principal object. This was revealed by the receipt, in due course of the mails, of cards announcing his marriage, in Paris, on July 27, in the American Church of the Holy Trinity, on the avenue de l'Alma. The bride was Miss Bertha Hutchinson Moorhouse, daughter of Mr. and Mrs. Henry P. Moorhouse, who reside at No. 155 boulevard Haussmann. The bride's father is an American who has been established in Paris for twenty years or more, in the sale of American rubber goods on the continent, meanwhile taking a prominent position in the social life of the American colony in Paris. Mr. and Mrs. Johnson were "at home," on their arrival from Europe, at the Waldorf-Astoria, New York.

=Mr. George F. Hodgman, president of the Hodgman Rubber Co. (New York), has returned from a vacation in Nova Scotia and among the Thousand Islands.

=A. M. Lougee, treasurer of the Clifton Rubber Manufacturing Co. (Boston), is spending the month of August at Oneco beach, Maine.

=Mr. E. L. Corning, a director in the Boston Rubber Shoe Co., and an old time friend of E. S. Converse, is now visiting the latter. Mr. Corning's home is in Geneva, Switzerland.

=Colonel Samuel P. Colt and Mr. Charles A. Emerson, of the United States Rubber Co., have recently been in Europe.

=Mr. Lester Leland, of Boston, has arrived at home from a brief business trip to Europe.

=Mr. Costello C. Converse, vice president of The Boston Rubber Shoe Co., is an enthusiastic golfer, and as such is president of the Pine Banks golf club of Malden, the links being situated on the Converse possessions near the beautiful public park known as the Middlesex Fells reservation. The Boston *Herald* recently published a series of nine photographs illustrating the club house and links, and showing a very good picture of the president.

=Mr. Albert T. Holt, superintendent of the Victor Rubber Co. (Springfield, Ohio), was a recent visitor to New York.

=Mr. George P. Eustis, treasurer of the American Rubber Co. (Boston), has finished a two weeks vacation at Lake Placid, in the Adirondacks.

A NEW CRUDE RUBBER COMPANY.

THE Manáos Rubber Co. was chartered August 7, under the laws of Virginia, by Judge Hanckel, of the corporation court at Norfolk, to buy and sell, export and import, crude rubber and other products of Brazil. The directors are: William C. Betts, Essex Falls, N. J. (president); Edward Dale, Jr., Newark, N. J. (vice president); Frank E. Bradley, New York (secretary); Frederick W. Dunbar, New York (treasurer); George H. Pell, New York. The capital is $80,000, with the privilege of increasing it to $150,000.

RUBBER GOODS MANUFACTURING CO.

JULY 30 a sixty share lot of preferred sold on the curb, in New York, at 87, the extreme price to that time, and full lots sold at ¼ point under that figure. On August 11 preferred sold at 90¼ for forty shares, which remains the record price. At the beginning of the month the common shares were quoted at about 30 bid. The New York *Times* of August 28 reports: "The prominence of Rubber Goods in the week's market has been noteworthy. Some 3000 or 4000 shares of the common changed hands in a single day, and it enjoyed activity throughout the day." The market closed for the week at 35¼ bid, 36 asked. ==The second quarterly dividend of 1¾ per cent. on the preferred stock of this company ($6,196,600 issued) will be payable on September 15, to stockholders of record on September 5, at the office of Baring, Magoun & Co.

THE BICYCLE TRUST.

THERE is little new to report with regard to the proposed American Bicycle Co. It is understood that the options on the several plants, which were to expire on August 1, have been extended to October 1. The election of permanent officers has been deferred until the individual shareholders in the different concerns can complete the exchange of their shares for certificates of stock in the "trust." A. G. Spalding continues to be most talked of for president. Meanwhile there are rumors that some of the factories not embraced in the "trust" plans will attempt a strong opposition. All the companies appear to be conducting their business this season as if no combination were in prospect.==The stockholders of the Peoria Rubber and Manufacturing Co., which is an Indiana corporation, though engaged in business in Illinois, met at Marion, Ind., on August 18, at which time they are reported to have voted to sell out to the proposed American Bicycle Co., taking payment presumably in cash and shares on the basis already outlined in this paper.==The Peoria company write to THE INDIA RUBBER WORLD: "Answering your question in regard to the American Bicycle Co., we would state that this corporation expects to be merged into that company very shortly. While there is some talk of an agreement between the American Bicycle Co. and the Rubber Goods Manufacturing Co. in regard to the three rubber plants owned by the former company, we have not been informed officially as to the nature of the agreement and know very little about the future policy on which this plant will be operated."

REVIEW OF THE CRUDE RUBBER MARKET.

THE spot market for fine Pará rubber continues quiet. While the usual consuming demand is noticed, buyers seem to be holding off as far as possible, hoping for more favorable terms. At the same time importers are not offering freely. The future of the market is uncertain, for more than one reason. The new crop year opens with smaller receipts at Pará, which has the effect of supporting prices to a certain extent. Besides, just what the demand for rubber in the automobile industry may be is yet to be determined. If the great activity in the organization of automobile companies is any indication, it is possible that a great deal of rubber will be needed for tires in the near future. It is safe to assume, however, that considerable time will elapse before the new companies get down to work in earnest, and that, by the time the deluge of orders for tires arrives, we shall be in another crop year.

From a Pará correspondent, August 14: "The market has developed little of particular interest, but although the demand is not general as yet, nevertheless there exists a steady undercurrent of buying, which, if not large, is persistent enough to impart firmness to the market. This is particularly noticeable in Up-river kinds, quotations on which may be said to have rather improved while those for Islands show a slight decline. A better tone is being reported from the consuming markets and this may, under the present circumstances, be conducive to more general and active buying and lead to an improvement in prices."

From a Liverpool circular: "The demand has been purely a trade one; consequently 'bulls' and 'bears' have been conspicuous by their absence—a good thing for manufacturers. We still hold to the opinion that no real decline is likely to take place for the next month or two. We are now at the period of the season when fresh supplies of Upriver are exceedingly small, and manufacturers must rely on what is actually in stock. Although efforts may, and probably will, be made to depress prices of this grade by offering Islands at cheap rates, we venture to think such efforts will not be successful. What stock there is, is well held, and, considering the enormous crop of last season, not too plentiful. Any demand from America would result in a rise in prices, and the probability of such an event happening is by no means problematical. Trade in America is good; in fact, has seldom been better."

The latest quotations in the New York market are:

PARÁ.		AFRICAN.	
Islands, fine, new	96 @97	Tongues	61 @62
Islands, fine, old	none here	Sierra Leone	53 @78
Upriver, fine, new	102 @103	Benguella	73 @74
Upriver, fine, old	104 @105	Congo ball	62 @63
Islands, coarse, new	61 @62	Cameroon ball	62 @63
Islands, coarse, old	none here	Flake and lumps	46 @47
Upriver, coarse, new	77 @78	Accra flake	23 @24
Upriver, coarse, old	none here	Accra buttons	65 @66
Caucho (Peruvian) sheet	60 @61	Accra strips	69 @70
Caucho (Peruvian) strip	none imported now.	Lagos buttons	65 @66
Caucho (Peruvian) ball	73 @74	Lagos strips	68 @ 69
CENTRALS.		Liberian flake	@
Esmeralda, sausage	70 @71	Madagascar, pinky	82 @83
Guayaquil, strip	55 @61	Madagascar, black	none here
Nicaragua, scrap	68 @69	GUTTA-PERCHA.	
Mangabeira, sheet	61 @62	Fine grade	1.50
EAST INDIAN.		Medium	1.30
Assam	79 @80	Hard white	1.00
Borneo	39 @51	Lower sorts	50
		Balata	

Late Pará cables quote:

	Per Kilo		Per Kilo.
Islands, fine	9$100	Upriver, fine	10$500
Islands, coarse	4$800	Upriver, coarse	7$500

Exchange 8*d*.

STATISTICS OF PARA RUBBER (METRIC TONS).

NEW YORK.

	Fine and Medium.	Coarse.	Totals. 1899.	Totals. 1898.	Totals. 1897.
Stocks, June 30	317	101 =	418	162	299
Arrivals, July	203	168 =	371	461	489
Aggregating	520	269 =	789	623	788
Deliveries, July	270	168 =	438	568	476
Stocks, July 31	250	101 =	351	55	312

	PARÁ.			ENGLAND.		
	1899.	1898.	1897.	1899.	1898.	1897.
Stocks, June 30	350	230	130	1000	725	1350
Arrivals, July	1050	1110	970	220	390	325
Aggregating	1400	1340	1100	1220	1115	1675
Deliveries, July	1140	1205	890	550	600	600
Stocks, July 31	260	135	210	670	515	1075

	1899.	1898.	1897.
World's supply, July 31 (excluding Caucho)	1941	1110	1952
Pará receipts, June 30 to July 31	1050	1269	970
Afloat from Pará to United States, July 31	91	—	—
Afloat from Pará to Europe, July 31	549	—	—

In regard to the financial situation, Albert B. Beers (broker in India-rubber and commercial paper, No. 58 William street, New York), advises us as follows:

"During August the money market conditions have remained about the same as in July, the expected easier rates not having been realized, and many banks that were buying freely in May and June have been out of the market since then. Rates have ruled at about 4@5 per cent. for the best rubber names, very little being taken at the lower rate, and 5½@6 per cent. for others."

THE ANTWERP RUBBER MARKET.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Our next sale by inscription, on August 31, will comprise about 268 tons most Congo sorts, arrived by the *Bruxellesville*. The principal lots are:

			Valuation.
No. 509.	11,285 kilos	Haut Congo Aruwimi	fr. 8 45
No. 513.	13,185 "	Haut Congo ordinary ball	8.80
No. 516.	15,806 "	Haut Congo Lac Leopold II	8.
No. 529.	58,441 "	Haut Congo Lopori	9.25
No. 537.	10,423 "	Haut Congo Lomani	8.75

The *Albertville* arrived yesterday from the Congo carrying:

CONSIGNEES.	Kilograms.
Bunge & Co	180,000
Ditto (from Société Anversoise de Commerce au Congo)	41,700
Ditto (from Société Anonyme d'Agriculture et de Plantations au Congo)	2,000
Société A B I R	34,500
Société Coloniale Anversoise, Société Anonyme	32,300
Comptoir Commercial Congolais	9,000
M. S. Cols (from Société des Produits Vegetaux du Haut Kassal)	3,700
Total	303,200

Ç. SCHMID & CO.

Antwerp, August 11, 1899.

ANTWERP RUBBER STATISTICS FOR JULY.

DETAILS.	1899.	1898.	1897.	1896.	1895.
Stocks, June 30 ... kilos	503,997	125,665	168,179	50,995	100,903
Arrivals in July..	247,314	248,156	121,395	62,623	25,987
Aggregating.... ...	751,311	373,821	289,574	113,618	126,890
Sales in July.....	406,106	117,558	167,641	45,438	35,384
Stocks, July 31.....	345,205	256,263	121,933	68,180	91,506
Arrivals since January 1..	2,096,266	1,114,211	870,637	424,539	261,307
Sales since January 1...	2,014,401	952,411	887,973	407,354	209,233

IMPORTS FROM PARA AT NEW YORK.

[The figures denote weight in Pounds.]

August 5.—By the steamer *Lisbonense*, from Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co..	44,300	3,600	20,900	.....=	68,800
Albert T. Morse & Co ...	8,900	2,600	20,800	900=	33,200
Reimers & Meyer.....	1,800	1,200	29,500	.....=	32,500
Lawrence Johnson & Co..	23,800	3,600	4,000	.....=	31,400
George G. Cowl.....	13,200	1,400	5,400	.....=	20,000
Hagemeyer & Brunn	4,000	.....	2,100	.....=	6,100
Crude Rubber Co.....	2,400	400	1,900	.....=	4,700
Edmund Reeks & Co.....	1,200	100	500	.....=	1,800
Total...	99,600	12,900	85,100	900=	198,500

August 16.—By the steamer *Hilary*, from Manáos and Pará:

Reimers & Meyer.....	64,000	7,500	54,900	.....=	126,400
Albert T. Morse & Co....	21,100	3,600	26,500	6,000=	57,200
Crude Rubber Co..... ..	21,800	3,200	4,700	....=	29,700
New York Commercial Co.	16,400	1,500	6,400	1,800=	26,100
Lawrence Johnson & Co..	13,400	3,000	5,100	.....=	21,500
George G. Cowl.....	10,800	900	1,900	.....=	13,600
William Wright & Co....	.....	.....	12,800	.....=	12,800
Hagemeyer & Brunn.....	4,300	.....	5,500	... .=	9,800
Kunhardt & Co.....	5,000	3,000	100	.....=	8,100
W. H. Crossman & Bros..	1,100	300	200	400=	2,000
Total.....	157,900	23,000	118,100	8,200=	307,200

[NOTE.—The *Polycarp*, from Pará, with 200 tons of rubber on board, was due at New York on August 27.]

PARA RUBBER VIA EUROPE.

JULY 28.—By the *Britannic*=Liverpool:

	POUNDS.
A. T. Morse & Co. (Coarse).	35,800

JULY 28.—By the *Pretoria*=Hamburg:

Reimers & Meyer (Coarse).....	6,000

AUG. 2.—By the *Teutonic*=Liverpool:

A. T. Morse & Co. (Coarse)...	11,500

AUG. 5.—By the *Campania*=Liverpool:

William Wright & Co. (Coarse).. ...	11,000

AUG. 7.—By the *La Champagne*=Havre:

Reimers & Meyer (Fine)....	17,800

AUG. 14.—By the *Umbria*=Liverpool:

George A. Alden & Co.—(Fine)	67,000	
Crude Rubber Co. (Fine).....	11,400	78,400

AUG. 16.—By the *Majestic*=Liverpool:

George A. Alden & Co. (Fine).....	25,000	
Crude Rubber Co. (Fine)..... ...	26,000	51,000

AUG. 21.—By the *La Normandie*=Havre:

George A. Alden & Co. (Fine).	9,000	
Crude Rubber Co. (Fine).....	9,000	18,000

OTHER ARRIVALS AT NEW YORK.

CENTRALS.

JULY 25.—By the *Alleghany*=Cartagena:

	POUNDS.	
Park Son & Co	6,000	
Lanman & Kemp	1,200	
J. Ferro.....	1,200	
Kunhardt & Co	1,000	
Guiterman, Rosenfeld & Co	1,200	
Flint, Eddy & Co.....	1,200	
Mecke & Co.....	100	11,700

JULY 26.—By the *Allianca*=Colon:

Isaac Brandon & Bros.....	7,817	
Dumarest & Co	5,535	
G. Amsinck & Co.....	4,267	
Crude Rubber Co.....	3,583	
Flint, Eddy & Co.....	3,470	
Hirzel, Feltman & Co	2,212	
W. R. Grace & Co.....	1,447	
Piza Nephews & Co.....	1,355	
Roldan & Van Sickle.....	1,233	
J. Aparicio & Co.....	1,115	
Lanman & Kemp.....	800	
A. M. Capen Sons.....	644	
Jacob Balz..... ...	212	
Graham Hinckley & Co..... ...	210	33,900

JULY 28.—By the *Orizaba*=Mexico:

E. N. Tibbals.....	1,000	
J. W. Wupperman.....	500	
J. W. Wilson & Co.....	200	

JULY 31.—By the *Ardandhu*=Belize:

Eggers & Heinlein.....	4,500	
G. Amsinck & Co.....	2,500	
For Hamburg.....	300	7,300

JULY 31.—By the *New York*=Southampton:

Reimers & Meyer.....	3,500	
New York Commercial Co.....	3,500	7,000

JULY 31.—By the *Excelsior*=New Orleans:

A. T. Morse & Co.....	4,000	
A. N. Rotholz.....	1,500	5,500

AUG. 1.—By the *Altai*=Greytown:

A. P. Strout.....	11,500	
Andreas & Co.....	7,000	
G. Amsinck & Co....	1,500	
Kunhardt & Co	1,000	
Roldan & Van Sickle...	200	
For Europe.....	3,000	24,200

AUG. 2.—By the *Advance*=Colon:

G. Amsinck & Co.	5,850	
Flint, Eddy & Co	5,036	
Hirzel, Feltman & Co..... ...	4,959	
A. P. Strout.....	2,429	
D. N. Carrington.....	1,894	
Lanman & Kemp.....	1,777	
J. Aparicio & Co.....	1,857	
W. Loaiza & Co.....	746	
Kunhardt & Co.....	571	
W. H. Crossman & Bros.	389	
J. B. Sageman.....	107	
H. H. Smythe.....	80	27,000

AUG. 2.—By the *Knickerbocker*=New Orleans:

A. T. Morse & Co.....	2,500	
W. Loaiza & Co.....	1,000	3,500

AUG. 2.—By the *Teutonic*=Liverpool:

George A. Alden & Co.....	2,200	
Crude Rubber Co.....	2,200	4,400

AUG. 4.—By the *Chauncer*=Bahia:

J. H. Rossbach & Bros.....	27,000	
Eimenhorst & Co.....	1,700	
L. Johnson & Co...	1,000	29,700

AUG. 9.—By the *Finance*=Colon:

Isaac Brandon & Bros.....	5,892	
Hirzel, Feltman & Co.....	3,488	
G. Amsinck & Co.....	2,163	
Flint, Eddy & Co.....	2,071	
Dumarest & Co..	1,951	
Piza Nephews & Co.....	1,535	17,100

AUG. 9.—By the *Chalmette*=New Orleans:

A. T. Morse & Co....	6,500	
A. N. Rotholz..	1,500	
T. N. Morgan.....	500	8,500

AUG. 9.—By the *Adirondack*=Cartagena:

D. A. DeLima & Co.....	6,000	
J. H. Lang	1,200	
Kunhardt & Co	1,000	
Munoz & Espriella	1,500	
Mecke & Co.....	600	
John Boyd, Jr., & Co	300	
Roldan & Van Sickle.....	200	
Cardenas & Co	300	11,100

AUG. 11.—By the *Seguranca*=Mexico:

H. Marquardt & Co	2,000	
F. Probst & Co	1,500	3,500

AUG. 11.—By the *Germanic*=Liverpool:

Otto G. Mayer & Co.....		5,800

AUG. 14.—By the *Louisiana*=New Orleans:

A. T. Morse & Co		10,000

AUG. 15.—By the *Knaeven*=Trinidad:

Thebaud Bros. (Angostura Fine)....	20,000	
Thebaud Bros. (Angostura Coarse)..	9,200	29,200

AUG. 15.—By the *Themis*=Belize:

Eggers & Heinlein	3,000	
Bush & Jevons	1,500	
A. S. Lascelles & Co.....	500	
G. Amsinck & Co....	300	5,500

AUG. 15.—By the *Alene*=Greytown:

A. P. Strout.....	6,500	
Kunhardt & Co.....	5,500	
D. A. De Lima & Co	4,500	
G. Amsinck & Co.....	4,000	
Andreas & Co	1,800	
Ellinger Brothers.....	1,100	
Punderford & Co.....	700	
J. Vengochea & Co.....	200	24,000

AUG. 16.—By the *Athos*=Colon:

Flint, Eddy & Co...	6,520	
Roldan & Van Sickle	6,023	
G. Amsinck & Co.....	5,690	
Crude Rubber Co.....	5,593	
Dumarest & Co.	3,859	
J. Aparicio & Co...	3,413	
A. Santos & Co...	3,068	
Mecke & Co.....	3,024	
Munoz & Espriella.....	2,200	
A. P. Strout.....	2,370	
Hirzel, Feltman & Co.....	916	
Ascensio & Cassio	128	42,800

AUG. 21.—By the *Yucatan*=Mexico:

E. Steiger & Co.....	10,000	
Thebaud Brothers.....	1,500	
H. W. Peabody & Co.....	1,500	13,000

AUG. 31.—By the *Alleghany*=Cartagena:

Kunhardt & Co....	4,000	
Roldan & Van Sickle..... ...	3,500	
Munoz & Espriella..	3,000	
Flint, Eddy & Co.....	3,000	
J. Ferro	2,000	
Samper & Co	1,500	
Punderford & Co.....	1,000	
For Bremen...	1,000	19,000

AUG. 22.—By the *Algiers*=New Orleans:

A. T. Morse & Co.....		11,000

AUG. 24.—By the *El Monte*=New Orleans:

A. T. Morse & Co.....		3,800

AFRICANS.

JULY 28.—By the *Britannic*=Liverpool

	POUNDS.	
Reimers & Meyer.....	11,200	
George A. Alden & Co.....	7,100	18,300

JULY 28.—By the *Pretoria*=Hamburg:

George A. Alden & Co.....	5,800	
Crude Rubber Co.....	5,600	11,200

JULY 31.—By the *Etruria*=Liverpool:

Otto G. Mayer & Co.....	13,400	
William Wright & Co.....	23,200	
Reimers & Meyer.....	4,400	41,100

AUG. 1.—By the *Brasilia*=Hamburg:

Albert T. Morse & Co		6,500

AUG. 2.—By the *Teutonic*=Liverpool:

George A. Alden & Co..... ...	13,500	
Crude Rubber Co.....	10,000	
Livesey & Co	3,900	27,400

AUG. 4.—By the *Patria*=Hamburg:

Livesey & Co.....		5,500

AUG. 7.—By the *Cymric*=Liverpool:

Crude Rubber Co..... ...	22,000	
George A. Alden & Co.....	22,000	44,000

AUG. 5.—By the *Campania*=Liverpool:

Albert T. Morse & Co	32,600	
Reimers & Meyer.....	22,500	
George A. Alden & Co....	7,700	
Crude Rubber Co.....	7,200	
Livesey & Co..... ...	12,100	82,100

AUG. 9.—By the *Kensington*=Antwerp:

George A. Alden & Co.	33,000	
Crude Rubber Co.	33,000	
Jos. Cantor	5,800	
Reimers & Meyer	46,300	118,100

AUG. 10.—By the *Servia*=Liverpool:

Reimers & Meyer		7,900

AUG. 11.—By the *Patricia*=Hamburg:

Livesey & Co		2,200

AUG. 11.—By the *Germanic*=Liverpool:

George A. Alden & Co.	13,900	
Crude Rubber Co.	9,000	
Albert T. Morse & Co.	5,800	28,700

AUG. 14.—By the *British King*=Antwerp:

Albert T. Morse & Co	12,000	
William Wright & Co	6,300	18,300

AUG. 14.—By the *Umbria*=Liverpool:

George A. Alden & Co.	10,000	
Crude Rubber Co	11,000	
Albert T Morse & Co.	5,700	
Livesey & Co	5,800	
William Wright & Co	8,500	
Reimers & Meyer	600	41,700

AUG. 14.—By the *Rotterdam*=Rotterdam:

Otto G. Mayer & Co.		30,000

AUG. 14.—By the *Phœnicia*=Hamburg:

Albert T. Morse & Co.	10,300	
Livesey & Co	4,000	14,300

AUG. 14.—By the *Tauric*=Liverpool:

George A. Alden & Co.	41,000	
Crude Rubber Co.	28,000	69,000

AUG. 16.—By the *Noordland*=Antwerp:

George A. Alden Co.	10,200	
Crude Rubber Co.	10,200	
Reimers & Meyer	28,000	48,400

AUG. 16.—By the *Majestic*=Liverpool:

Joseph Cantor		15,000

AUG. 18.—By the *Graf Waldersee*=Hamburg:

George A. Alden & Co.	24,000	
Reimers & Meyer	8,500	32,500

AUG. 19.—By the *British Queen*=Antwerp:

George A. Alden & Co.		19,000

AUG. 19.—By the *Lucania*=Liverpool:

William Wright & Co.	33,000	
George A. Alden & Co.	7,700	
Crude Rubber Co.	4,500	
Albert T. Morse & Co.	20,000	
Livesey & Co	3,500	
Reimers & Meyer	1,500	70,200

AUG. 21.—By the *Bovic*=Liverpool:

Reimers & Meyer		22,000

EAST INDIAN.

JULY 31.—By the *Manitou*=London:

	POUNDS.	
George A. Alden & Co.	3,000	
Crude Rubber Co	3,000	6,000

JULY 31.—By the *New York*=Southampton:

Reimers & Meyer		16,200

AUG. 2.—By the *Bucentaur*=Calcutta:

George A. Alden & Co.	10,000	
Reimers & Meyer	8,000	18,000

AUG. 5.—By the *Ben Lomond*=Singapore:

Reimers & Meyer		17,000

AUG. 7.—By the *Menominee*=London:

Otto G. Mayer & Co.		28,100

AUG. 15.—By the *European*=London:

George A. Alden & Co	5,000	
Crude Rubber Co.	5,000	10,000

AUG. 21.—By the *New York*=Southampton:

Otto G. Mayer & Co.		16,000

GUTTA-PERCHA.

	POUNDS.
JULY 28.—By the *Pretoria*=Hamburg:	
George A. Alden & Co	2,200
AUG. 4.—By the *Patria*=Hamburg:	
George A. Alden & Co.	2,200
AUG. 5.—By the *Ben Lomond*=Singapore:	
Robert Soltau & Co.	27,100
AUG. 7.—By the *Menominee*=London:	
Henry H. Smythe	3,300
AUG. 15.—By the *European*=London:	
Otto G. Mayer & Co.	4,300
AUG. 21.—By the *New York*=Southampton:	
Otto G. Mayer & Co.	2,200
R. F. Downing & Co.	1,500 3,700

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—JULY.

Imported:	POUNDS.	VALUE.
India-rubber	2,586,882	$1,425,669
Gutta-percha	55,757	10,847
Gutta-jelatong (Pontianak)	468,450	13,822
Total	3,051,089	$1,449,728
Exported:		
India-rubber	92,409	$57,769
Reclaimed rubber	71,322	10,298

BOSTON ARRIVALS.

	POUNDS.
JULY 5.—By the *New England*=Liverpool:	
——— Africans	2,227
JULY 5.—By the *Sachem*—Liverpool:	
Livesey & Co.—Africans	9,092
JULY 10.—By the *Sylvania*—Liverpool:	
Reimers & Meyer—Africans	11,425
JULY 12.—By the *Sagamore*—Liverpool:	
Reimers & Meyer—Africans	23,564
Livesey & Co.—Africans	8,596
George A. Alden & Co.—Africans	9,500
Crude Rubber Co.—Africans	6,196
JULY 15.—By the *Cephalonia*=Liverpool:	
George A. Alden & Co.—Africans	6,900
Crude Rubber Co.—Africans	4,779
JULY 18.—By the *Herman Winter*=New York:	
[From the *Friesland*, Antwerp, arrived New York, July 11.]—Africans	11,008
JULY 18.—By the *Carinthia*=Liverpool:	
———Africans	5,462
JULY 19.—By the *Arcadia*=Hamburg:	
Livesey & Co.—Africans	12,212
JULY 25.—By the *Kansas*=Liverpool:	
Reimers & Meyer—Africans	22,857
JULY 31.—By the *Bay State*=Liverpool:	
Livesey & Co.—Africans	3,865
JULY 31.—By the *Chicago*=London:	
———Africans	2,271

	POUNDS.	VALUE.
Total for July	142,954	$ 89,636
Total for June	47,404	25,231
Total for May	71,493	47,317
Total for April	204,780	119,618
Total for March	89,170	51,945
Total for February	317,936	197,523
Total for January	247,345	147,488

NEW ORLEANS.

JULY.

	POUNDS.	VALUE.
From Nicaragua	35,926	$24,892
From Honduras	1,948	858
Total	37,874	$25,750

JULY EXPORTS OF INDIA-RUBBER FROM PARA (KILOGRAMS.)

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Pusinelli, Prüsse & Co.	31,804	4,473	49,485	9,600	95,362	113,730	19,210	23,840	16,520	173,300	268,662
La Rocque da Costa & Co.	40,376	7,873	50,486	1,490	100,225	44,842	2,646	36,144	1,800	85,432	185,657
Adelbert H. Alden	43,853	3,762	25,134	317	73,066	24,820	2,550	16,800	8,380	52,550	125,616
Rudolf Zietz	6,240	1,440	—	—	7,680	15,295	3,536	7,599	—	26,430	34,110
R. Suarez	—	—	—	—	—	9,980	1,460	5,521	—	16,961	16,961
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	8,921	3,581	316	—	12,818	12,818
The Sears Pará Rubber Co.	6,460	1,020	2,770	—	10,250	—	—	—	—	—	10,250
Kanthack & Co.	—	—	3,340	—	3,340	4,418	1,232	918	—	6,568	9,908
Pires, Teixeira	4,307	—	2,495	—	6,802	—	—	—	—	—	6,802
H. A. Astlett	3,985	383	1,157	—	5,525	—	—	—	—	—	5,525
Denis Crouan & Co.	—	—	900	—	900	2,720	340	—	—	3,060	3,960
Sundry small shippers	6,290	680	11,100	—	18,070	101,145	11,056	14,780	1,200	128,181	146,251
Direct from Iquitos	—	—	—	—	—	2,623	327	39,896	64,233	107,079	107,079
Direct from Manáos	6,775	2,632	3,060	14,497	26,964	38,797	7,680	18,684	94,496	159,657	186,621
Total	150,090	22,263	149,927	25,904	348,184	367,291	53,618	164,498	186,629	772,036	1,120,220

MONTHS.	United States.	England.	Continent.	Total.
January-June	8,085,867	4,948,253	1,459,474	14,493,594
July	348,184	588,119	183,917	1,120,220
Total for 1899	8,434,051	5,536,372	1,643,391	15,613,814

MONTHS.	From Iquitos.	From Manáos.	From Pará.	Total.
January-June	455,673	4,595,843	9,442,078	14,493,594
July	107,079	186,621	826,520	1,120,220
Total for 1899	662,752	4,782,464	10,268,598	15,613,814